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Flying Operations

U-28 OPERATIONS PROCEDURES

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This instruction implements AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure,* and AFI 11-202V3, *General Flight Rules*. It establishes procedures for the operation of PC-12 Trainer/U-28 aircraft employed by Air Force Special Operations Command (AFSOC) in the 5th, 19th, 34th, and 319th Special Operations Squadrons (SOS) to accomplish their worldwide operational and training missions. Unless noted otherwise, instructions contained herein apply to PC-12 Trainer and U-28 aircraft. It provides the most acceptable policies and procedures for most circumstances, but does not replace sound judgment. This instruction does not apply to the Air National Guard. This publication applies to Air Force Reserve Command (AFRC) units. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force. The Privacy Act of 1974 applies to certain information gathered pursuant to this instruction. The Privacy Act System Number F011 AF XOA, Aviation Resource Management Systems (ARMS) covers required information. The authority for maintenance of ARMS is 37 U.S.C. 301a (Incentive Pay), Public Law 92-204, Section 715 (Appropriations Act for 1973), Public Laws 93-570 (Appropriation Act for 1974), 93-294 (Aviation Career Incentive Act of 1974), DoD Directive 7730.57 (Aviation Career Incentive Act of 1974 and Required Annual Report, February 5, 1976, with Changes 1 and 2); and Executive Order 9397. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force (AF) Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through the appropriate functional's chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management

System (AFRIMS) Records Disposition Schedule (RDS) located at **www.my.af.mil/afrims/afrims/afrims/rims.cfm**.

Refer to **Attachment 1** for a Glossary of references, abbreviations and terms.

Refer to **Attachment 2** for Equal Time Point calculations.

SUMMARY OF CHANGES

This document is entirely new and must be reviewed in its entirety. Table 3.1 incorporates crew member body weight limitations into Table 3.1 Crew Complement. Paragraph 3.2.2 adds guidance for CSOs logging flight time on PC-12 Trainer aircraft. Paragraph 3.6.1.2 specifies a maximum flight duty period of 14 hours for all mission events, as specified in AFI 11-2U28V1, *U-28 Aircrew Training*. Paragraph 5.1 specifies 10,450 lbs max takeoff weight for PC-12 Trainers and restricts operations above 10,450 lbs to U-28s only. All functional check flight (FCF) and short field references have been removed. Paragraph 5.2.3 lowers the requirement to complete "Before Landing Checklist" to 100 feet above ground level (AGL), and lowers requirement for aircraft to be established on final, wings level, with a controlled rate of descent in a position to execute a safe landing to 100 feet AGL. Paragraph 5.11.2 incorporates PC-12/U-28 wake turbulence spacing. Paragraph 5.12 removes short field association with landings at LZs marked with airfield marking patterns (AMP). Paragraph 5.12.3 specifies airfield suitability and restriction report/zone availability report (ASRR/ZAR) as source for approved U-28/PC-12 airfields. Paragraph 5.14 removed short field operations and added precision landing criteria. Paragraph 5.14.2 updated the PC-12/U-28 minimum runway width. Paragraph 5.14.4.1 updates AMP-3 minimum touchdown zone to 30 feet wide by 200 feet long. Paragraph 5.22 removes engine running off load information, which is located in the POH. Paragraph 5.23 adds declared distances guidance. Paragraph 6.1 removes requirement to wear gloves for takeoff and landing, but still requires gloves to be readily available during flight. Paragraph 6.18 adds warning for night vision goggles (NVG) use during "black hole" conditions. Paragraph 6.18.1 adds requirement for Sq/DO or CC approval for tactical approaches when illumination is below 10%. Paragraph 6.19.1 changes arrival fuel to 300 pounds during all conditions. Paragraph 6.34 adds enhanced ground proximity warning system (EGPWS) guidance, and paragraph 6.35 adds traffic collision avoidance system (TCAS) guidance. Paragraph 6.43.2 adds requirement to fly no slower than centered angle of attack (AOA) around the final turn and on final until preparing for landing. Paragraph 6.47 adds maximum rate descent guidance. Paragraph 8.2.3 removed description of tactical departures and arrivals and directs that these procedures will be flown in accordance with U-28 Tactics Manuals. Paragraph 8.9 adds laser usage guidance. Paragraph 9.4.3 adds hung flare description. Paragraph 9.7.2 adds requirement for aircraft to be wings level in a position to execute a safe landing no lower than 100 feet AGL. Paragraph 9.7.2.2 adds requirement for instructor pilot (IP) directed go-around during simulated engine out approach if the airspeed is slower than centered AOA or if the landing gear does not indicate "Down, Three Green." Chapter 11 added Combat Systems Officer Specific Operational Guidelines.

Chapter 1

GENERAL INFORMATION

1.1. General. This volume provides guidelines and restrictions for AFSOC PC-12 Trainer and U-28 aircraft. It is a compilation of information from aircraft flight manuals, Flight Information Publications (FLIP) and other Air Force directives, and is an original source document for many areas. If conflicting guidance is given in U-28 Tactics Manuals or Handbooks, this volume takes precedence. It is written for normal and contingency operations to reduce procedural changes at the onset of contingencies. All PC-12 and U-28 operations shall be conducted in accordance with US domestic law and international law, to include the law of armed conflict. Training procedures are included. Headquarters AFSOC Standardization/Evaluation (HQ AFSOC/A3V) has overall responsibility for the administration of this volume.

1.2. Applicability. This AFI is applicable to U-28 aircraft and PC-12 Trainer aircraft. References to units, personnel, and aircraft in this instruction include all gained forces unless specifically exempted by this instruction. The policies outlined in this regulation apply for U-28 and PC-12 Trainer flight operations.

1.3. Key Definitions.

1.3.1. "Must", "Will", and "Shall" indicate a mandatory requirement.

1.3.2. "Should" indicates a recommended procedure.

1.3.3. "May" indicates an acceptable or suggested means of accomplishment.

1.3.4. ***"WARNING"*** indicates operating procedures, techniques, etc., which will result in personal injury or loss of life if not carefully followed.

1.3.5. ***"CAUTION"*** indicates operating procedures, techniques, etc., which will result in damage to equipment if not carefully followed.

1.3.6. ***"NOTE"*** indicates operating procedures, techniques, etc., which are essential to emphasize.

1.3.7. See **Attachment 1**, Glossary of References and Supporting Information for additional terms, definitions, and references.

1.4. Deviations and Waivers. Do not deviate from the policies and guidance in this AFI, except when the situation demands immediate action to ensure safety. Report deviations, without waiver, through channels to HQ AFSOC/A3 within 24 hours, followed by a written report.

1.4.1. Although this publication provides guidance for aircraft operations under most circumstances, it is not a substitute for sound judgment. When it is necessary to protect the crew and aircraft from a situation not covered by this instruction and immediate action is required, the Pilot in Command (PIC) has ultimate authority and responsibility for the course of action to be taken. Report all deviations or exceptions to this instruction without a waiver through channels to HQ AFSOC/A3.

1.4.2. Unless otherwise indicated, HQ AFSOC/A3 is the waiver authority for operational procedure requirements contained in this instruction. HQ AFSOC/A3 may delegate this

authority to the Commander Special Operations Air Forces (COMAFSOF) for operationally assigned Special Operations Forces. Request waivers to this instruction through proper command and control channels.

1.5. Distribution.

1.5.1. U-28 Unit Commander (CC), All Levels – 1.

1.5.2. Operational File (Ops Section), All Levels – 1.

1.5.3. Flight Crew Information File (FCIF) – 1.

1.5.4. Staff Operations Officers, All Levels – 1.

1.5.5. Mission Kits – 1.

1.5.6. Aircrew – 1.

1.6. Supplements. Supplements will not duplicate or be less restrictive than the provisions of this instruction or any other publication without prior authorization from the appropriate MAJCOM. File supplements according to Air Force Instruction (AFI) 33-360, Publications Management Program. Note: AFRC units will send unit supplements to AFRC/A3V who will then forward to AFSOC/A3V

1.6.1. Units may supplement this instruction. The purpose of the unit supplement is to document the process by which units implement the requirements of this instruction. Post the unit supplement behind the basic instruction and MAJCOM supplement.

1.6.2. Local Procedures Coordination Process. Units will send one copy of Chapter 10 (Local Procedures) supplements to HQ AFSOC/A3V for validation.

1.7. Requisitioning Procedures. Order this volume through the Publication Distribution Office. Unit Commanders provide copies for all aircrew members and associated support personnel as directed by **paragraph 1.5**.

1.8. Improvement Recommendations. Personnel at all echelons are encouraged to submit proposed changes In Accordance With (IAW) AFI 11-202, Volume 2, AFSOC Sup 1, *Aircrew Standardization/Evaluation Program*, through MAJCOM Standardization and Evaluation channels to HQ AFSOC/A3V. Use AF Information Management Tool (IMT) 847, *Recommendation for Change of Publication*.

1.9. Development of New Equipment and Procedures. Units are encouraged to suggest new equipment, methods, tactics, and procedures. Coordinate these requirements through the MAJCOM.

Chapter 2

COMMAND AND CONTROL (C2)

2.1. General. The AFSOC C2 system is based on the principles of centralized monitoring and decentralized command and control and execution. The result is a C2 mechanism which keeps the AFSOC/CC informed of the current status of AFSOC forces while enabling the Wing, Group, or Squadron Commander to exercise control over the day-to-day operations.

2.2. Operational Control (OPCON). AFSOC is the air component to the United States Special Operations Command (USSOCOM). USSOCOM may delegate OPCON of all Air Force Special Operations Forces (AFSOF) aircraft assigned or allocated to USSOCOM. In circumstances where OPCON of AFSOF aircraft has been provided to the Theater Special Operations Commands (TSOCs) within a Geographic Combatant Command for theater-based assets, AFSOC is typically designated as the controlling agency for such assets. ***EXCEPTION:*** In practice, responsibility for planning and executing AFSOC missions is routinely delegated to the Wing/CC or Group/CC. The Wing/CC or Group/CC, in turn, exercises control of non-close-hold missions through command post supporting wing or group. In the event that assigned forces undergo a change in operational control, responsibility for mission monitoring passes from the wing or group C2 facility to the gaining command. Changeover will be accomplished in accordance with the pertinent Operational Plan, Operational Order, Deployment Order, or Execution Order. ***NOTE:*** For certain close-hold activities, security considerations may compel the Wing or Group Commander to shift mission monitoring responsibilities from the command post to another wing, group, or theater agency. The Wing/CC or Group/CC will ensure procedures are established for the responsible agency to monitor mission progress and advise the HQ AFSOC/A3 or AFSOC/CC as appropriate.

2.3. Mission Monitoring. Except for selected close-hold missions, the owning wing exercises OPCON of all AFSOC and ARC units when transiting to/from, or between off-station locations. The Operations Center tracks off-station aircraft via the Air Mobility Command (AMC) C2 system and direct reporting from aircrew and command post personnel. Key components of the AMC C2 system are the Airlift Implementation and Monitoring System (AIMS), the Global Decision Support System (GDSS), and various AMC C2 facilities at theater and wing locations. Information on scheduled activity comes from the wings, who input AIMS data for all upcoming missions except local missions not scheduled to land outside the local flying area or close-hold missions that cannot be accommodated by classified "J-coded" AIMS setups. When aircraft are deployed in support of operations and exercises, the Operations Center obtains additional information from Situation Reports (SITREP) and Deployed Status Reports (DSR). The following mission monitoring procedures primarily apply to missions that are not close-hold in nature and have not been CHOPed to another command:

2.3.1. Wing (or equivalent) Command Posts track continental United States (CONUS) movements of their aircraft and directly input mission information into the GDSS. These actions keep the AFSOC/CC informed of the status and location of CONUS forces.

2.3.2. Information on Outside Continental United States movements of AFSOC aircraft (OCONUS or theater-based) comes to the AFSOC Operations Center via GDSS or telephone notification from the overseas host unit command posts. The host unit command posts

receive their data from the aircrews directly or via the Special Operations Command and Control Squadron or Element.

2.3.3. Unclassified Missions at Bases with an AMC C2 Facility. The Mission Commander (MC) or PIC will use all practical means to ensure the following information is relayed to the AMC C2 facility at least 30 minutes prior to landing: call sign(s), mission number(s), Estimated Time of Arrival (ETA), maintenance status, and additional service requirements. After landing, the MC or PIC will contact the C2 facility with ground handling requirements and departure information. In addition, CONUS-based crews operating within the CONUS must keep their home station command posts appraised of all actual takeoff and landing times, projected takeoff times, and other related information.

2.3.4. Unclassified Missions at Bases without an AMC C2 Facility. The MC or PIC will report, as soon as possible, actual takeoff and landing times, maintenance status, projected takeoff times, and other pertinent data to the theater command post/reporting agency or AFSOC Operations Center. Methods of communicating this information include High Frequency (HF) phone patch, Defense Switched Network (DSN), and commercial telephone. CONUS-based crews operating within the CONUS must also ensure that their home station command posts receive real-time reports on aircraft movements.

2.3.5. J-coded AIMS Missions. When operating on J-coded missions, the MC or PIC will pass movement reports to the appropriate C2 facility. The MC or PIC will make arrangements with the theater command post/reporting agency or AFSOC Operations Center to pass pertinent flight information via secure voice or data communications. If necessary, call on an unclassified line and report. For example, "Loaded and ready to go. Estimated Time of Departure is as fragged". ***NOTE:*** For missions requiring special handling above and beyond basic J-code procedures, C2 procedures will be outlined in the tasking directive.

2.3.6. Close-hold or Sensitive Missions. These missions may operate without AIMS setups. Reference the note preceding this paragraph.

2.3.7. Regional Reporting Agencies. CONUS Special Operations Wing (SOW) and below taskings: Wing Command Center. Above wing level taskings: Wing Command post with coordination through AFSOC Operations Flight. OCONUS and Deployed taskings: COMAFSOF with coordination through AFSOC Operations Flight.

2.4. Designation of a COMAFSOF. The USSOCOM, AFSOC, or Theater Special Operations Command Commander may designate a COMAFSOF. This should be done in writing, and the designation letter will include the individual by name, and the geographic area of authority. In the absence of a designated COMAFSOF, HQ AFSOC/A3 may grant COMAFSOF waiver authority to an individual in writing. Update the designation letter to reflect personnel changes due to prolonged deployments. A copy of the designation letter will be maintained by the AFSOC Command Center.

2.5. Mission Commander. A mission commander (MC) will be designated when more than one aircraft or crew is deployed away from home station for training, exercises, or other operations. It is highly encouraged that designated MCs attended the AFSOC approved Mission Commanders Course. The MC will be a rated officer and should not be used as a primary crew member. In cases where it is necessary for the MC to fly, ensure a senior unit member or

designated representative is delegated to fulfill MC duties. The MC's responsibilities include, but are not limited to:

2.5.1. Briefing crews on local operating procedures.

2.5.2. Coordinating with Air Traffic Control (ATC), Combat Control Teams, Special Tactics Squadron (STS) teams, range control, users, and other agencies that may have an impact on the mission.

2.5.3. Ensuring that Forward Area Refueling Point (FARP) locations or Landing Zones (LZ) have current surveys (when necessary).

2.5.4. Ensuring personnel have ample and adequate billeting, eating, and transportation arrangements.

2.5.5. Ensuring maintenance personnel know of aircraft and fuel requirements.

2.5.6. Submitting timely reports on aircraft movements and mission situational reports (SITREP) (reference **paragraph 2.3.4**).

2.6. Pilot in Command Responsibility and Authority. AF Form 4327A, *Crew Flight Authorization*, designates a PIC for all flights. The PIC is:

2.6.1. In command of all persons aboard the aircraft.

2.6.2. Responsible for the welfare of their crew, Mission Essential Ground Personnel (MEGP), passengers, and the safe accomplishment of the mission.

2.6.3. Vested with the authority necessary to manage the crew and accomplish the mission.

2.6.4. The final mission authority and will make decisions not specifically assigned to a higher authority.

2.6.5. The final authority for accepting a waiver affecting the crew or mission.

2.6.6. Charged with keeping the applicable commander informed of mission progress and difficulties.

2.6.7. Responsible for the timely reporting of aircraft movements in the absence of a MC.

2.7. Mission Clearance Decision. The final decision to delay a mission may be made either by the agency with OPCON or the PIC when, in the opinion of either, conditions are not safe to start or continue a mission. Final responsibility for the safe conduct of the mission rests with the PIC. If the PIC refuses a mission, it will not depart until the conditions have been corrected or improved so that the mission can operate safely. Another PIC and aircrew will not be alerted to take the same mission under the same conditions.

2.7.1. Diverting or rerouting a mission must be authorized by the commander with OPCON, except in an emergency or when required by en route or terminal weather conditions or facilities. In the event of an emergency or weather-related divert or reroute, the MC or PIC must notify the controlling authority as soon as possible.

2.7.2. The controlling agency directing the diversion or rerouting is responsible for ensuring destination requirements or facilities are adequate for the aircraft and aircrew.

2.7.3. The PIC will notify the controlling agency of any aircraft or aircrew limitations that may preclude diverting or rerouting the mission.

2.7.4. When directing an aircraft to an alternate airfield, the controlling agency will ensure the PIC is provided existing and forecast weather for the alternate. If the planned alternate is unsuitable upon arrival at destination, the controlling agency will advise the PIC of other suitable alternates.

Chapter 3

AIRCREW COMPLEMENT AND MANAGEMENT

3.1. Aircrew Qualification. Each person assigned as a primary crew member must be qualified or in training for qualification in that crew position, mission, and aircraft.

3.1.1. Basic proficiency crew members may perform primary crew duties on any non-mission sortie and on mission sorties (including unilateral training, joint training, and exercises) when receiving mission qualification training or evaluations under the supervision of a qualified instructor or flight examiner in their respective crew position.

3.1.2. Mission capable crew members may perform primary crew duties on any unilateral training mission. For other missions, the unit commander must determine the readiness of each mission capable crew member to perform primary duties.

3.1.3. Noncurrent (NC) or Unqualified (UNQ) pilots may perform crew duties only on designated training or evaluation missions under the supervision of a qualified instructor or flight examiner pilot.

3.1.4. Other NC or UNQ crew members required for mission may perform duties in their primary crew position on any mission when under the direct supervision of a qualified instructor or flight examiner in their respective crew position.

3.2. Crew Complement. The crew complement for operations is specified in Table 3.1. The Operations Group (OG) Commander (OG/CC) or COMAFSOF is the waiver authority for aircrew complements less than specified in Table 3.1.

Table 3.1. Crew Complement.

Mission	Pilot(s)	CSO	Notes
Engine Ground Run	1	not required	
Qualification and Instrument	2	As Required	1, 2, 3
Mission	2	As Required	1, 2

NOTES:

1. Includes all basic non-tactical operations to and from improved areas day and night. Qualified crews are authorized to use Night Vision Goggles (NVG) as appropriate to improve general flight safety.

2. Maximum individual crew member body weight should be limited to 195 pounds due to airframe limitations and mission requirements.

3. Instructor Pilots may perform single pilot Qualification or Instrument operations in special cases with OG/CC or COMAFSOF approval. Landings are limited to full stop only.

3.2.1. Other US Military Service Members Performing Duties on Air Force Aircraft. Reference AFI 11-401, AFSOC Sup 1, *Aviation Management*.

3.2.2. Logging of Flying Time. Log flying time IAW AFI 11-401, AFSOC Sup 1, CSOs flying on PC-12 Trainer aircraft can log “other” time under the “XN” crew code.

3.3. Interfly. Interfly is the exchange and/or substitution of aircrew members and/or aircraft between MAJCOMs to accomplish flying missions. Normally, interfly should be limited to specific operations/tests, exercises, or special circumstances.

3.3.1. HQ AFSOC/A8PF maintains current Memorandum of Agreements (MOA) between AFSOC, AFRC, Air Force Materiel Command, Air Education and Training Command (AETC), and Air Combat Command (ACC) for interfly using AFSOC-assigned aircraft. Unless specified in the MOA:

3.3.1.1. Aircraft ownership will not be transferred.

3.3.1.2. The operational or training squadron will prepare and sign AFSOC/AFRC flight orders for flights on which the "A-code" is from their squadron.

3.3.1.3. As a minimum, aircrews will be qualified in the PC-12 Trainer or U-28, as well as systems or configuration required to fly the aircraft and/or mission. If noncurrent, comply with **paragraph 3.1.3** and **3.1.4**.

3.3.1.4. Crew member(s) will follow operational procedures defined in this instruction (AFI 11-2U-28, Volume 3, *U-28 Operations Procedures*) and the applicable U-28 and PC-12 Trainer Pilot Operating Handbook (POH).

3.3.1.5. AFSOC will retain all flight and ground mishap reporting responsibility.

3.3.2. Waiver Authority.

3.3.2.1. With a valid MOA. OG/CC or COMAFSOF is the approval authority for interfly on AFSOC aircraft under their control.

3.3.2.2. No MOA/Expired MOA. HQ AFSOC/A3 is the approval authority for interfly on AFSOC aircraft.

3.3.2.3. Contingency operations must be approved by both HQ AFSOC/A3 and respective MAJCOM/A3.

3.4. Intrafly. The OG/CC or COMAFSOF is the approval authority for intrafly of AFSOC crew members on PC-12 Trainer or U-28 aircraft under their control.

3.4.1. In all cases, the aircrew must be current and qualified in the aircraft, systems, configuration, and mission being flown. If noncurrent, comply with **paragraphs 3.1.3** and **3.1.4**.

3.5. Scheduling Restrictions. In addition to the restrictions in AFI 11-202, Volume 3, AFSOC Sup 1, *General Flight Rules*, do not schedule crew members to fly or perform crew duties:

3.5.1. After consuming alcoholic beverages within 12 hours of takeoff or assuming alert or standby duties.

3.5.2. Within 24 hours after being administered anesthetics for dental or surgical procedures. Local flight surgeons will recommend scheduling restrictions following all medical issues where provider assistance is sought, (see AF Form 1042 - *Medical Recommendation for Flying and Special Duties*). When mission requirements dictate, flight surgeons may authorize shorter periods of not less than 8 hours.

3.5.3. Reference AFI 11-202 Volume 3, AFSOC Sup 1, Chapter 9, for further information on combating fatigue and use of pharmaceuticals.

3.6. Flight Duty Periods (FDP).

3.6.1. The U-28 and PC-12 Trainer are considered "Transport" aircraft for FDP calculations; the maximum flight duty period is 16 hours**.** In addition to the restrictions in AFI 11-202V3, comply with the following:

3.6.1.1. Maximum FDP of 12 hours for training and engine runs. ***EXCEPTION:*** AFRC FDP is 16 hours for all training flights originating from home station.

3.6.1.2. Maximum FDP of 14 hours for all mission events, as specified in AFI 11-2U-28V1.

3.6.1.3. PICs may extend their FDP up to 2 hours during mission execution. If this option is used, the PIC must coordinate with command and control agencies so follow on activities or schedules are not adversely affected.

3.6.1.4. Aircrews may recover to a basing location with a non-tactical recovery, to include the use of NVGs after the PIC has extended the FDP in accordance with **3.6.1.3**.

3.7. Crew Rest. In addition to the restrictions in AFI 11-202V3, AFSOC Sup 1, Chapter 9, comply with the following:

3.7.1. Under unusual circumstances, and when approved by the command or director of operations, it is permissible for crew members not previously placed in crew rest to fly if they meet the crew rest requirements.

3.8. Standby Duty. A period of time during which a crew may be required to launch on an anticipated mission for which a firm departure time cannot be established.

3.8.1. Aircrew members will be provided a 12-hour inviolate crew rest period preceding the start of standby duty.

3.8.2. Aircrew not dispatched on a mission following standby duty will be re-entered into crew rest or receive post-mission crew rest (if applicable).

3.9. Alert Duty. Reference AFI 11-202, Volume 3, AFSOC Sup 1, *General Flight Rules*, for alert FDP guidance.

3.9.1. Give alert aircrews a general briefing at the beginning of each alert period. Update the briefing every 24 hours to include weather, local Notice To Airman, latest FCIF information, special instructions, and any other appropriate items.

3.9.2. Alert aircrews will prepare a weight and balance for the alert aircraft and are authorized to prepare Takeoff And Landing Data (TOLD) using the worst weather conditions expected during the alert period. Use this data only for alert scrambles. If the alert aircraft is flown for other reasons, compute data for that flight using existing weather conditions.

3.9.3. When an alert crew change occurs and the same aircraft remains on alert, the oncoming alert crew will complete a face-to-face turnover and review the aircraft forms for the aircraft. If unable to accomplish a face-to-face turnover, accomplish a preflight.

3.10. Crew Notification and Show Times. Publish crew notification procedures and mission show times in Chapter 10 of this instruction.

Chapter 4

AIRCRAFT OPERATING GUIDELINES

4.1. Objectives. A fully mission capable aircraft is the ultimate objective of the logistics effort. The final responsibility regarding equipment required for a mission rests with the PIC. If one crew accepts an aircraft to operate a mission or mission segment without an item or system, this acceptance does not commit that crew, or a different crew, to accept subsequent operations with the same item or system inoperative. When the PIC considers an item essential, designate the component Mission Essential on the aircraft maintenance forms, and the item will be repaired or replaced prior to departure.

4.1.1. The PIC is the approval authority for operations with degraded equipment within the guidelines of the aircraft Master Minimum Equipment List (MMEL). Operating outside of the aircraft MMEL guidelines requires Group/CC or COMAFSOF approval. For contingency operations, when communication issues prevent any possibility of a waiver request, the PIC is the approval authority operating outside the aircraft MMEL guidelines but must notify the chain of command of the situation as soon as conditions permit. Tactical missions fall outside the scope of MMEL and the PIC will ensure that equipment necessary for the mission being flown is operational in accordance with the Minimum Essential Subsystem List (MESL).

4.1.2. One Time Flights. An aircraft may be released for a one time flight with a condition that might be hazardous for continued use provided the aircraft is airworthy for one flight to another station. A onetime flight is defined as a required flight to a final destination including required fuel stops.

4.1.2.1. The Unit CC, chief of maintenance, MC, or deployed maintenance representative must authorize this release.

4.1.2.2. The OG/CC or COMAFSOF must authorize the flight after maintenance has released the aircraft for flight operations.

4.1.2.3. The maintenance release, OG/CC or COMAFSOF approval, and the PIC's concurrence are all required before the aircraft can be flown to the specified repair destination.

4.2. Policy. If the PIC elects to operate with degraded equipment or aircraft systems, the PIC will coordinate mission requirements (i.e., revised departure times, fuel requirements, maintenance requirements, etc.) prior to flight with the mission control agency to ensure the decision does not adversely impact follow-on missions. Reference the MMEL, MESL, and Kinds of Equipment List for aircraft systems and equipment required for operations.

4.2.1. Landing Gear System. If a landing gear malfunction is encountered, only a full stop landing will be made. The discrepancy will be corrected prior to the next flight.

4.2.1.1. If repair capability does not exist and a positive determination is made that further flight can be accomplished with the gear down and locked, the aircraft may be flown to a destination where repair capability exists provided the gear is not moved from the down and locked position.

4.2.2. Radar. Weather mode radar must be operative for flights into areas of known or forecast thunderstorms.

4.2.3. Global Positioning System (GPS) Navigational Systems. Fly the PC-12 Trainer and U-28 in accordance with guidance in the Pilot's Operating Handbook.

Chapter 5

AIRLAND OPERATIONS

5.1. Aircraft Maximum Operating Weight Policy. Operations above 10,450 pounds are considered heavy weight operations, and apply to U-28 aircraft only. PC-12 Trainer aircraft are restricted to a maximum takeoff weight of 10,450 pounds.

5.1.1. Combat or contingency operations. U-28 Heavy Weight operations in support of combat or contingency operations are approved up to a maximum ramp weight of 10,979 pounds and a max takeoff weight of 10,935 pounds during contingency or combat. Operations above 10,979 pounds require AFSOC/A3 approval.

5.1.2. Training operations. U-28 Heavy weight operations during training must be approved by the OG/CC or COMAFSOF. Training operations above 10,979 pounds require additional AFSOC/A3 approval.

5.2. Checklists. Accomplish all checklists with strict discipline. A checklist is not complete until all items have been accomplished.

5.2.1. Each aircrew member will use the HQ AFSOC/A3V approved checklist for their duty position when conducting ground or flight operations.

5.2.2. Aircrews may use approved checklists modified with notes, amplifying procedures, and limits provided the checklists and notes are current. Currency of notes is the crew member's responsibility.

5.2.3. Before Landing Checklists. Aircrew will complete the Before Landing Checklist no lower than 100 feet Above Ground Level (AGL). Aircraft will be established on final, wings level, with a controlled rate of descent in a position to execute a safe landing no lower than 100 feet AGL.

5.3. Duty Station. All crew members will be at their duty stations during all takeoffs, departures, approaches, and landings. During other phases of flight, crew members may leave their duty stations to meet physiological needs and perform normal crew duties. Only one pilot may be absent from their duty station at a time. Notify the crew prior to going off intercom.

5.3.1. Pilot in-flight seat swaps may be accomplished only with a qualified pilot at the flight controls and above 1,000 feet AGL.

5.4. Takeoff and Landing Policy.

5.4.1. The PIC will have access to a set of controls during all takeoffs and landings.

5.4.2. A current and qualified Instructor Pilot (IP) may takeoff and land from either seat under any condition. During IP upgrade training, the IP trainee may takeoff and land from either seat under any condition.

5.4.3. A certified semi prepared surface Mission Pilot or IP may takeoff or land from either seat during semi prepared surface operations.

5.4.4. The PIC will land the aircraft during:

5.4.4.1. Aircraft emergencies unless conditions prevent compliance.

5.4.4.2. Missions with Distinguished Visitor (DV) 4 or higher on board the aircraft.

5.4.5. Touch-down/Go-Around Point. The pilot flying the aircraft will verbally identify a touch-down and go-around point on all runways.

5.5. Landing Gear and Flap Operation.

5.5.1. The pilot occupying the left seat will operate the landing gear. Actuate the landing gear upon command of the Pilot Flying (PF). Prior to actuation of the landing gear, the Pilot Not Flying (PNF) will acknowledge the PF command by repeating the command.

5.5.2. The flaps should normally be actuated by the PF. However, the PF may direct the PNF to operate the flaps.

5.5.3. When operating into an airfield where maintenance support is unavailable air crew can elect to leave the flaps in the take off position configuration, i.e., 15 flaps, instead of retracting them to zero.

5.6. Seat Belts and Cabin Occupants.

5.6.1. All crew members will have a designated seat and restraint available. Crew members occupying a primary duty position will have lap belts fastened at all times. Shoulder harness and lap belts will be fastened for taxi, takeoff, and landing. ***EXCEPTION:*** Crew members performing specific duties may be away from their seat without restraints fastened during non-critical phases of flight.

5.6.2. Provide a safety belt for all occupants over 2 years of age. Occupants will fasten seat belts securely when directed by the PIC, turbulence is encountered or anticipated, or in areas of forecast clear air turbulence.

5.6.3. Floor loading is authorized to support dedicated special forces team members during contingencies, exercises, or training. The aircrew will attach a tie down strap for each row of personnel to provide forward restraint and body stability.

5.6.3.1. Alternate restraints will be secured prior to takeoff and will not be removed until after landing unless required to meet physiological needs or perform mission related duties.

5.6.3.2. Accomplish troop security by one of the following methods in descending order of preference:

5.6.3.2.1. Seatbelts or snap links attached to tie-down rings on the cabin floor.

5.6.3.2.2. Five thousand (5,000) pound tie-down straps.

5.6.4. All cabin passengers must be seated with seat belts fastened during taxi, takeoff, approach, and landing.

5.6.5. **Passenger Policy.** DoD 4515.13-R, *Air Transportation Eligibility*, establishes criteria for passenger movement on DoD aircraft. AFI 11-401, AFSOC Sup 1, provides further guidance on orientation and public affairs travel. Refer to these publications directly. In all cases, passengers will be manifested on DD Form 2131, *Passenger Manifest.*

5.6.5.1. During spouse orientation flights comply with AFI 11-401 and all supplements. Additionally threat reaction maneuvers are prohibited and spouses will not fly on the same aircraft.

5.6.5.2. For other orientation categories, passengers will be seated with seatbelts fastened during threat maneuvers.

5.6.5.3. Space-required. DoD 4515.13R lists several categories of passengers who are authorized official travel on DoD aircraft. Apply the space-available processing, approval, and restrictions to all space-required categories with the following exceptions:

5.6.5.3.1. Supported Forces. A subcategory of space-required passenger defined by this instruction as U.S. and foreign military personnel who are an integral part of the mission being performed. Approval is assumed by the mission tasking. Manifest on DD Form 2131, *Passenger Manifest*.

5.6.5.3.1.1. Restrictions. Both pilots must be fully qualified (unless specified otherwise by AFI 11401). Simulated emergency procedures (EP) are prohibited. There are no restrictions on mission events. Passengers will be seated and secured during threat maneuvers. The PIC will ensure supported forces are briefed on the mission profile and events before flight.

5.6.5.3.2. Mission Essential Personnel. A sub-category of space-required passenger defined by AFI 11401, AFSOC Sup 1 and this instruction. Off-station travel is documented by travel orders. A letter of authorization from the group commander or COMAFSOF will document local flights. Deployed squadron or mission commanders may approve squadron-assigned personnel, or maintenance personnel required for mission accomplishment. 18 FLTS/CC is the approval authority for supporting forces in conjunction with test missions. When frequent local flights are necessary, commanders may issue annual authorizations by name or AFSC, as appropriate. When using this option, the PIC will ensure that all restrictions in the following paragraph are complied with for each individual mission.

5.6.5.3.2.1. Both pilots must be fully qualified (unless specified otherwise by AFI 11401). Simulated EPs are prohibited. There are no restrictions on mission events. Passengers will be seated and secured during threat maneuvers. The PIC will ensure supporting forces are briefed on the mission profile and events before flight.

5.7. Aircraft Lighting. Operate aircraft lighting IAW AFI 11-202, Volume 3, AFSOC Sup 1, *General Flight Rules*, and AFI 11-218, *Aircraft Operations and Movement on the Ground*, except when in compliance with contingency requirements or guidance.

5.7.1. During NVG training operate in accordance with AFI 11-202, Volume 3, AFSOC Sup 1, *General Flight Rules*.

5.7.2. If Infrared (IR) covers are installed on any of the aircraft lighting systems, the PIC will verify that the other overt lighting systems are operable prior to takeoff.

5.8. Advisory Calls During Instrument Flight Rules (IFR) Operations. The following are mandatory altitude calls made by the PNF:

5.8.1. Non-precision Approaches.

5.8.1.1. “100 Above” when 100 feet above Minimum Descent Altitude (MDA) or step down altitude.

5.8.1.2. “Minimums” at MDA.

5.8.1.3. “Runway in sight” when the runway environment is in sight and the aircraft is in a position to execute a safe landing.

5.8.1.4. “Go-around” at the missed approach point or below MDA and the runway environment is not in sight, when the aircraft is not in a position to execute a safe landing, when directed by ATC facility, or conditions on the runway will not allow a safe landing (e.g., personnel, equipment, or aircraft on the runway).

5.8.2. Precision Approaches.

5.8.2.1. “100 Above” when 100 feet above final approach altitude, glideslope intercept altitude, or Decision Height (DH).

5.8.2.2. “Continue” at DH with approach light system visible and the aircraft in a position to execute a safe landing. Do not continue the approach below 100 feet if usable runway visual cues are not present.

5.8.2.3. “Land” at DH with the runway environment in sight and the aircraft in a position to execute a safe landing.

5.8.2.4. “Goaround” at or below DH and the runway environment is not in sight or if the aircraft is not in a position to execute a safe landing, when directed by ATC facility, or conditions on the runway will not allow a safe landing (e.g., personnel, equipment, or aircraft on the runway).

5.8.3. Climb/Descent.

5.8.3.1. “1,000 feet above/below” assigned altitude or flight level.

5.8.4. Altimeter settings. Both pilots will state and set the altimeter setting as issued by ATC, weather reporting facilities (e.g., Automatic Terminal Information System (ATIS), Automated Weather Observation System, Automated Surface Observation System, etc.), or when passing a Transition Level or Altitude (e.g. Flight Level 180).

5.8.5. Deviations:

5.8.5.1. Any crew member will immediately advise the PF when observing unannounced heading deviations greater than 10 degrees, airspeed deviations of 10 knots, altitude deviations of 100 feet during approach or 200 feet while en route, or potential terrain or obstruction problems and no attempt is being made to correct the deviation.

5.8.5.2. Any aircrew member will announce deviations from prescribed procedures for the approach being flown to the PF when no attempt is being made to correct the deviation.

5.9. Communications Policy. The aircrew will determine communication requirements during mission planning. Ensure all mission frequencies, cryptological data, mission radio configuration, and mission radio monitoring responsibilities are outlined during the preflight briefing.

5.9.1. Classified interphone or radio transmissions can be recorded on the cockpit voice recorder (CVR), if installed, and operating. Ensure only authorized personnel have access to a CVR that contains classified conversations.

5.10. Wind Limits. Comply with the POH maximum demonstrated crosswind for takeoff and landing for the given flap configuration. When landing with gusty winds and increased approach speed, the deck angle of the aircraft will be lower, PIC will exercise caution when landing to prevent nose-wheel first landings or propeller contact on touchdown.

5.11. Wake Turbulence and Wind Shear Avoidance.

5.11.1. The PIC will exercise caution when conducting taxi or flight operations within the vicinity of helicopter(s) or tilt-rotor aircraft. In a slow hover-taxi or stationary hover near the surface, helicopter main rotor(s) or tilt-rotor aircraft produce high velocity downwash vortices out to a distance approximately three times the diameter of the rotor. In forward flight, departing or landing helicopters or tilt rotor aircraft produce a pair of strong, high-speed trailing vortices similar to wing tip vortices of larger fixed-wing aircraft.

5.11.2. When landing behind a fixed-wing aircraft, the following rules will be followed.

5.11.2.1. Maintain two minute spacing behind small aircraft (12,501 - 41,000 pounds)

5.11.2.2. Maintain three minute spacing behind large and heavy aircraft (greater than 41,000 pounds)

5.11.2.3. No spacing is required behind like aircraft or aircraft weighing less than 12,500 pounds.

5.11.3. When departing after a fixed wing aircraft has just departed, the PIC must ensure rotation is prior to the larger aircraft's point of rotation AND the aircraft will not enter the climb profile of the leading aircraft. If either of these cannot be met, the PIC will follow the timing rules in **5.11.2**.

5.11.4. When departing after a fixed-wing aircraft has just landed, the PIC must ensure his rotation point is after the larger aircraft's touch down point.

5.11.5. Reference to AFMAN 11-217 Volume 3, *Supplemental Flight Information*, for additional wake turbulence information and wake turbulence avoidance techniques. A reliable timing source will be used to ensure appropriate separation is achieved.

5.11.6. Wind shear is any rapid change in wind direction or speed. Wind shear at low altitudes and slow airspeeds are the most dangerous. Pilots should look for airspeed changes of greater than 15 knots or vertical speed changes of more than 500 feet per minute, both of which indicate a possible wind shear condition. Below 100 feet in an approach, if indicated airspeed and expected ground speed are more than 15 knots different, pilots should consider initiating a go-around. ***WARNING:*** Wind can affect the path and duration of wake turbulence thereby prolonging the turbulence hazard or placing the turbulence in an unanticipated location. The PF is expected to adjust aircraft operations and flight path as necessary to preclude serious wake encounters.

5.12. LZ and LZ Markings.

5.12.1. It is the responsibility of all aircrew and/or ground personnel to notify the Point Of Contact for the unit LZ survey program, in a timely manner, of any changes or discrepancies on existing surveys.

5.12.2. A thorough review of the LZ survey and accompanying photographs, computer drawings, or imagery will be accomplished by all crew members during the aircrew brief. The PIC is responsible for ensuring that any crew member unable to attend the brief either reviews the landing zone survey or is briefed on the hazards associated with the LZ.

5.12.3. Aircrews may conduct airland operations at airfields specified in the ASRR/ZAR.

5.12.4. Tactical LZ surveys may be used during exercises and operational missions when a full LZ survey is unavailable due to the situation. Requests to use tactical surveys will be forwarded to OG/CC or COMAFSOF for review and approval.

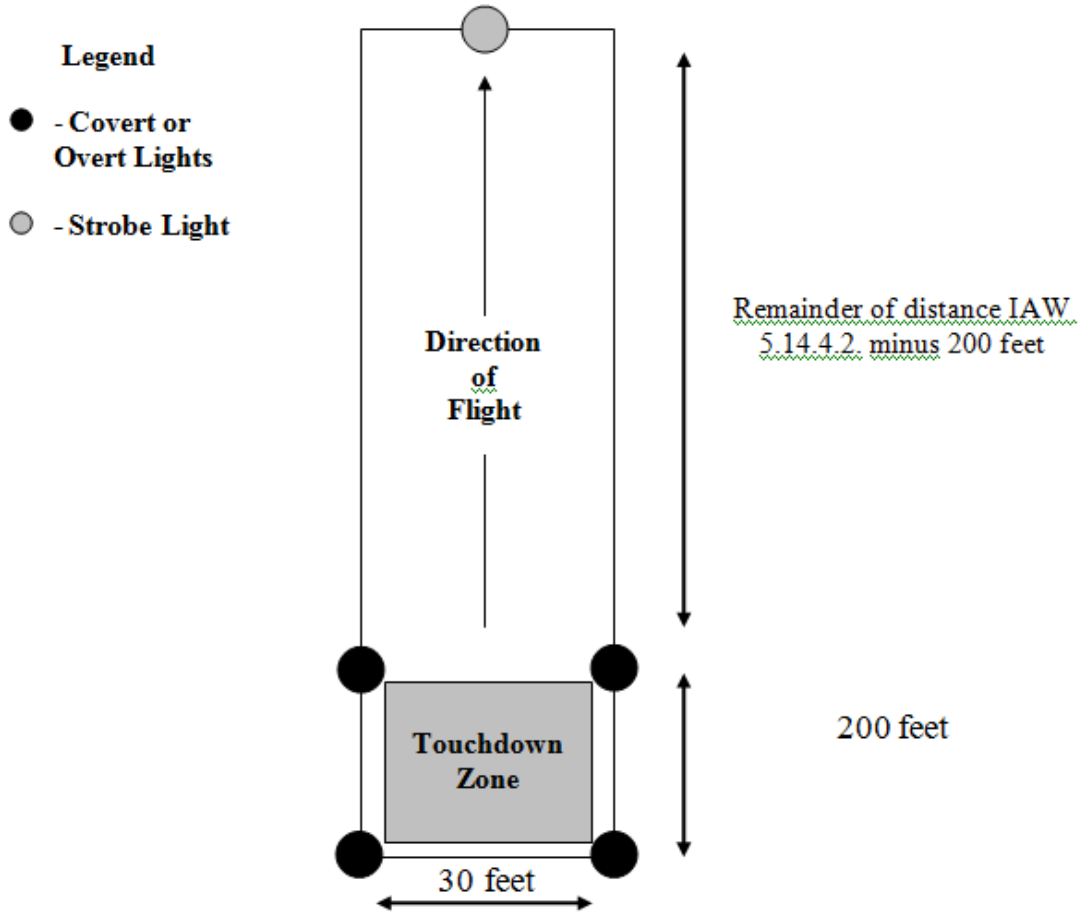
5.12.5. The OG/CC or COMAFSOF may approve the use of other DoD services or host nation equivalent LZ surveys.

5.12.6. Refer to AFI 13-217, AFSOC Sup 1, *Drop Zone and Landing Zone Procedures*, for LZ marking descriptions. The overt and covert markings and signals to be used during LZ operations will be established during mission planning and included in the aircrew briefing.

5.12.6.1. Aircrews may land at an LZ marked with any Airfield Marking Patterns (AMP) configuration IAW AFI 13-217, *Drop Zone and Landing Zone Procedures*, or this instruction provided the pilots define an identifiable go-around point (e.g., visual point/location, timing past intended landing point, etc.) prior to landing. Overt or covert markings may be used to define a LZ.

5.12.6.2. Aircrews will define an identifiable touchdown and go-around point on all runways and LZs.

Figure 5.1. AMP-3 (Box and One) Configuration.



NOTE: Figure depicts AMP-3 configuration.

5.13. Aircraft Rescue and Fire Fighting (ARFF) Requirements. ARFF requirements at non-USAF active or flying installations are as follows:

5.13.1. During contingency LZ usage, up to eight takeoffs and landings within four consecutive days may be accomplished at a LZ or airfield without ARFF equipment or local established procedures in the event of an aircraft incident or accident. OG/CC or COMAFSOF is waiver authority for flight operations at locations not possessing ARFF capabilities or local procedures.

5.13.2. Refer to AFPAM 32-2004, *Aircraft Fire Protection for Exercises and Contingency Response Operations*, to calculate ARFF requirements. Non-USAF ARFF vehicles may be used if the agent and pumping capabilities are equivalent.

5.13.3. Waivers to the ARFF requirements will be considered on a case-by-case basis. Required information for waiver request can be found in AFPAM 32-2004, *Aircraft Fire Protection for Exercises and Contingency Response Operations*.

5.13.4. Squadron commanders may authorize operations at training LZs and local airfields that do not possess local ARFF services.

5.14. Runway and Taxiway Requirements. Use normal takeoff and landing procedures whenever practical. For mission accomplishment, if approach end overruns are available and stressed or authorized for normal operations, the overruns may be used to increase the runway available for takeoff. Base all aircraft performance requirements on actual or predicted environmental conditions (e.g., pressure altitude, temperature, aircraft weight, runway surface conditions, etc.).

5.14.1. Taxiway width. Minimum width for all operations is 23 feet.

5.14.2. Runway width. Minimum width for all operations is 30 feet.

5.14.3. Normal Operations:

5.14.3.1. Takeoff and landing. Minimum runway length is Accelerate-Stop Distance corrected for environmental conditions and flap setting.

5.14.3.2. Touch-and-go operations. Minimum runway length is 5,000 feet for full and partial flap landings and 6,000 feet for no-flap landings.

5.14.3.3. Stop-and-go operations. Available runway distance remaining after stopping the aircraft will be at least Accelerate-Stop Distance corrected for environmental conditions and flap setting. If the runway remaining is less, taxi the aircraft to achieve Accelerate-Stop Distance.

5.14.3.4. Precision landings. Any pilot may perform precision landings to a minimum touchdown zone of 30 feet wide by 200 feet long. ***WARNING:*** Aircraft performance is based upon rotating and climbing on criteria outlined in the POH. Failure to maintain aircraft performance criteria may not allow for safe clearance of obstacles.

5.14.4. NVG Landings:

5.14.4.1. NVG AMP-3 landings can be performed by any pilot qualified to perform NVG landings. AMP-3 landings will have a minimum touchdown zone of 30 feet wide by 200 feet long, and the runway length will be at least Accelerate-Stop Distance.

5.14.4.2. NVG AMP-4 landings can be performed by any pilot qualified to perform NVG landings. AMP-4 landings will have a clearly defined intended point of landing and the runway length will be at least Accelerate-Stop Distance.

5.14.4.3. A STS controller (or qualified equivalent) or an active control tower is required to conduct NVG landings at unlit or covertly marked landing zones or airfields.

5.14.5. Semi prepared surface operations:

5.14.5.1. Only semi prepared surface certified pilots may perform semiprepared surface operations.

5.14.5.2. Pilots will only perform stop-and-go or full stop landings on semiprepared surfaces. Reference the POH for aircraft performance on semi-prepared surfaces.

5.15. Aircraft Taxi Obstruction Clearance Criteria. In addition to the requirements of AFI 11-218, *Aircraft Operations and Movement on the Ground*, comply with the following:

5.15.1. Without wing walkers, avoid taxi obstructions by at least 25 feet. With wing walkers, avoid taxi obstructions by at least 10 feet. ***EXCEPTION:*** When operating at a

civilian airport and taxiing on a Fixed Based Operator (FBO) ramp, the PIC may taxi the aircraft within 25 feet of obstacles or other aircraft without wing walkers when using marked taxi routes. The PIC will comply with marshaller instructions. Taxi routes must be used by similar types of aircraft for which the routes were designed and in specifically designed parking spots. Support equipment shall be located in appropriately designated areas.

5.15.2. Do not taxi aircraft closer than 10 feet to any obstacle.

5.15.3. When taxi clearance is doubtful, use a wing walker. If wing walkers are unavailable or if provided and doubt still exists as to proper clearance, deplane a crew member to maintain obstruction clearance.

5.16. Reverse Taxi. ***CAUTION:*** Using brakes to stop the aircraft while reverse taxiing may result in aircraft empennage contacting the ground.

5.16.1. The pilot performing reverse taxi operations will coordinate reverse taxi directions and signals to be used with the marshaller (if applicable) prior to commencing reverse taxi operations. Exercise vigilance if reverse taxi is accomplished without a marshaller.

5.16.2. During night reverse taxi operations, the pilot will ensure visibility in the taxi area is sufficient to conduct safe taxi operations.

5.16.3. Stop no less than 25 feet from an obstruction even if using a wing walker.

5.17. Takeoff and Landing Obstruction Clearance Criteria.

5.17.1. For a LZ to be suitable for operations, the LZ must meet the following obstacle clearance criteria listed below.

5.17.1.1. Zone A. Within 35 feet either side of runway centerline (excluding the runway or taxiway), obstacles will not be higher than 12 inches.

5.17.1.2. Zone B. Within 40 feet either side of runway centerline (excluding the runway or taxiway), obstacles will not be higher than 60 inches.

5.17.1.3. Approach Zone. No obstructions higher than 1 foot for every 35 feet (35:1) in the approach zone.

5.17.1.4. Clear Zone: Minimum of 500 feet.

5.17.1.5. Lateral Obstruction Clearance

5.17.1.5.1. Zone A (measured from runway centerline):

Figure 5.2. Zone A Calculation.

$$\frac{(\text{Wing Span} + \text{Wheel Track})}{2}$$

5.17.1.5.2. Zone B (measured from runway centerline):

Figure 5.3. Zone B Calculation.

$$\frac{(\text{Wing Span} + \text{Wheel Track})}{2} + (10\% \text{ of Wing Span})$$

5.17.1.6. For semiprepared surface taxiways and runways, obstacles will not be higher than two inches unless AFM, POH, or aircraft addendum to this instruction is more restrictive.

5.17.2. Reference AFI 13-217, AFSOC Sup 1, *Drop Zone and Landing Zone Procedures,* for additional information on LZ criteria for shoulders, graded areas, transitional area, clear and approach zones.

Figure 5.4. LZ Lateral Criteria (not to scale).

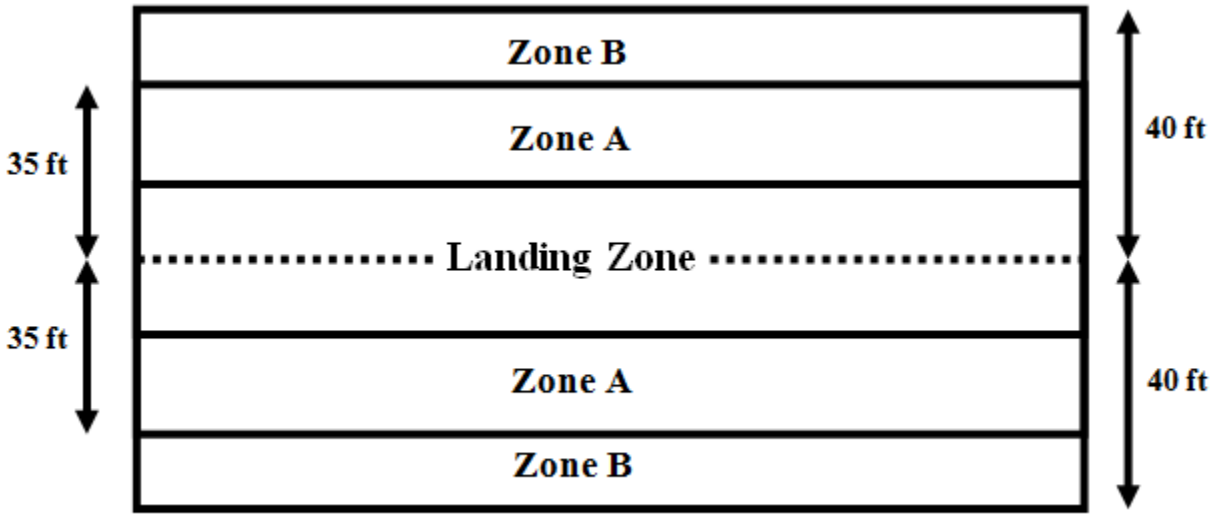
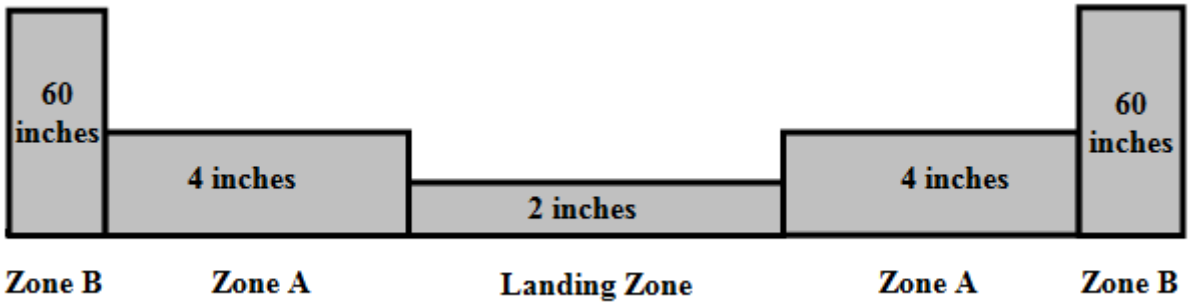


Figure 5.5. LZ Obstacle Height Criteria (not to scale).



5.18. Operations Over Arresting Cables:

5.18.1. Avoid landing on non-recessed arresting cables.

5.18.2. Avoid rolling over arresting cables at speeds greater than a brisk walk during taxi, takeoff, or landing to preclude damage to bottom of aircraft. Maintain appropriate backpressure on aircraft yoke to reduce nose landing gear down force if inadvertently crossing an arresting cable at high speed.

5.19. Aircraft Recovery from Unprepared Surfaces. Aircrews should not attempt to recover an aircraft after inadvertent entry onto surfaces that are not suitable for taxi. Ground crews using appropriate equipment will normally recover the aircraft. Aircrews may recover the aircraft at austere locations if, after thorough inspection, the PIC is sure there is no aircraft damage and the surface will support the aircraft.

5.20. Inter. Normally, initiate takeoffs from the beginning of the runway. The decision to make intersection takeoffs rests solely with the aircraft commander. Base TOLD card computations on the runway remaining at the point the takeoff is initiated.

5.21. Reduced Power Operations. Reduced power operations are not authorized during takeoff and initial climb.

5.22. Engines Running Onload or Offload (ERO).

5.22.1. ERO procedures will be conducted in accordance with the POH. An ERO will only be run for operational necessity or aircrew proficiency. The appropriate POH checklists will be run anytime an aircraft door is open with the engines running.

5.23. Declared Distances.

5.23.1. Declared distances are normally associated with airports affected by close-in development, or encroachment, and are annotated on aerodrome sketch portion of the approach plate with a black square with a white "D." Four terms are associated with declared distances: TORA: Take-off Run available; TODA: Take-off distance available; ASDA: Accelerate-stop distance available; LDA: Landing distance available. See AFMAN 11-217 V1 for more details.

5.23.2. For normal takeoff, both the actual runway length and the declared ASDA must be greater than computed Accelerate-Stop Distance. The declared TORA must be greater than the computed Takeoff Ground Roll.

5.23.3. For a normal landing, the actual runway length, the declared ASDA, and the declared LDA must be greater than computed Accelerate-Stop Distance.

5.23.4. For touch-and-go operations, the actual runway length, declared ASDA, TORA and LDA must all be greater than 5,000 feet (6,000 feet for no-flap touch-and-gos).

5.24. Approved Instrument Procedures.

5.24.1. The PIC will not fly an instrument approach or departure at an airfield unless the procedure has been TERPS reviewed and approved by AFSOC or another MAJCOM and is valid for the date used. Approved procedures can be checked on Global Decision Support System 2 (GDSS2).

Chapter 6

GENERAL OPERATING PROCEDURES

Section 6A—Pre-Mission

6.1. Aircrew Uniforms.

6.1.1. On all missions, wear the aircrew uniform and other flying clothing/equipment in accordance with AFI 11-301, Volume 1, AFSOC Sup 1, *Aircrew Life Support Program* and AFI 36-2903, *Dress and Personal Appearance of Air Force Personnel*, or as directed for mission requirements.

6.1.2. If the wear of civilian clothing is authorized by the Foreign Clearance Guide (FCG) or a combatant commander or his delegated authority, Aircrews may wear conservatively styled civilian clothing when required for mission or operational requirements (e.g., Foreign Clearance Guide (FCG)) and approved by the unit commander. Civilian clothing worn will consist of casual slacks or cargo pants, collared shirts, shoes or hiking boots. Denim jeans, T-shirts, or clothing predominately made from non-cotton materials are not authorized. When wearing civilian clothes, aircrew will comply with all requirements of **paragraph 6.2**.

6.2. Personal and Professional Equipment.

6.2.1. Passports. Carry passports on missions when required by the FCG.

6.2.2. Shot Record. Aircrew members will ensure they meet immunization requirements for the mission area of operations.

6.2.3. Identification. Identification tags (dog tags) will be worn around the neck or carried in a flight suit pocket. A valid US government issued identification card (commonly referred to as CAC) will also be carried on all flights.

6.2.4. All aircrew members will have flight gloves readily available during all flights

6.2.5. Foreign Object Damage (FOD) Hazards. Aircrew will not wear wigs, hairpieces, rings, scarves, ornaments, pins, hair clips or fasteners, or earrings in the aircraft or on the flight line. Crew members will remove rings and scarves before performing aircrew duties. ***EXCEPTION:*** Plain elastic hair fasteners or plastic barrettes are allowed, providing they do not interfere with the wearing of headsets or helmets, or the donning of oxygen equipment. All devices will be accounted for before and after flight.

6.2.6. Restricted Area Badges. Carry the restricted area badge on all missions (except combat missions) and display badge only in designated restricted areas.

6.2.7. Carry a headset and operable flashlight on all flights.

6.2.8. NVGs. All pilots will carry and preflight their own NVGs prior to flight for missions using NVGs. The PIC or designated crew member will preflight a spare set of NVGs. Pilots will wear NVGs with similar acuity and gain.

6.2.8.1. The PIC or designated crew member will preflight a night tactical bag containing, or ensure the following items are available on the aircraft:

6.2.8.1.1. Spare set of NVGs.

6.2.8.1.2. Chemical illumination devices (i.e., chem sticks).

6.2.8.1.3. Spare batteries compatible with batteries used in flight.

6.3. Survival and Protective Equipment. The unit will establish minimum survival and protective equipment to be worn or carried on a crew member's person for contingency or combat operations. All personnel will wear the survival and protective equipment provided during hostile environment operations.

6.3.1. When conducting overwater flights beyond power off gliding distance from land, the Unit CC, MC, and PIC should consider the following factors:

6.3.1.1. Climate zone, water temperature, and existing weather throughout range and route of proposed flight.

6.3.1.2. Operational requirements (e.g., fuel requirements from an Equal Time Point (ETP) at an altitude not requiring oxygen, glide procedures, number of aircrew, use supplemental oxygen, etc.).

6.3.1.3. Number, type, and communications capabilities of aircraft in nonstandard formation (if applicable).

6.3.1.4. Time of flight and range over water beyond power off gliding distance with engine inoperative.

6.3.1.5. Location, availability, and capability of Search And Rescue (SAR) forces. Alert status and flying time from alert staging location of SAR aircraft (e.g., MC-130E/H/P, HC-130, US Coast Guard) to overwater route of flight.

6.3.1.6. Anticipated time in water prior to rescue by SAR or commercial systems (e.g., cargo or fishing vessels, military or SAR ships).

6.3.1.7. Winds, wave height, and their impact on SAR or commercial systems.

6.3.1.8. Aircraft and ground communications ranges and capabilities, commercial shipping lanes, and air corridors transited by military aircraft and commercial air carriers.

6.3.1.9. The PIC and MC will ensure all aircrew are briefed on and review aircraft ditching, water survival, and rescue signaling procedures.

6.3.2. After careful study and analysis of the preceding factors compared to proposed flight routing, the OG/CC or COMAFSOF may allow flight operations without additional flight support (i.e., C-130 support for "duck butt" operations) for inter-theater or intra-theater operations. The Unit CC may request additional flight support operations when risk factors or analysis deem necessary.

6.3.2.1. Single ship, single engine aircraft overwater flights beyond power off gliding distance from land will inform OG/CC or COMAFSOF and the HQ AFSOC/A3 of proposed operations, routing, and risk mitigation factors prior to commencing overwater operations without additional flight support.

6.4. Aircrew Publication Requirements.

6.4.1. Aircrew will maintain the unclassified publications specified in the Flight Crew Information Summary. This requirement may be satisfied if fully posted publications are

kept on board the aircraft. Publications will include all applicable AFSOC, Wing, Group, or Squadron Supplements (imbedded in parent regulation/instruction or stand alone). Home-station airfield and operations group publications are required for operations that originate from their station.

6.4.2. If electronic publication usage is approved, all applicable supplements, changes, and other official modifications of publications will be incorporated in electronic versions.

6.4.3. Publications required in flight by crew members will be carried in hardcopy format, unless HQ AFSOC/A3 has approved the electronic media. One copy of the FCIF library publications will be maintained in hardcopy format in the unit stan/eval office.

6.5. Aircraft Mission Kits. Units will maintain one mission kit per aircraft. Prior to all missions, the PIC or a designated representative will ensure a current kit is on board the aircraft. The kit will contain, but is not limited to the items listed below. Maintain sufficient quantities of directives and planning documents to allow implementation of evacuation and contingency plans.

6.5.1. Pilot Operating Handbook. Appropriate aircraft operating manual, with normal and emergency operating procedures, and aircraft performance charts.

6.5.2. MMEL and/or MESL.

6.5.3. AFI 11-202, Volume 3, AFSOC Sup 1, *General Flight Rules.*

6.5.4. AFI 11-2U-28, Volume 3, *U-28 Operations Procedures.*

6.5.5. AF IMT 15, *USAF Invoice*.

6.5.6. AF IMT 457, *USAF Hazard Report*.

6.5.7. AF IMT 651, *Hazardous Air Traffic Report (HATR).*

6.5.8. AF IMT 711B, *USAF Mishap Report*.

6.5.9. AFSOC Form 97, *Incident Report*.

6.5.10. DD Form 175, *Military Flight Plan.*

6.5.11. DD Form 1385, *Cargo Manifest.*

6.5.12. DD Form 1801, *International Flight Plan.*

6.5.13. CF 6059B Form, *Customs Declaration.*

6.5.14. DD Form 2131, *Passenger Manifest.*

6.5.15. SF 44, *Purchase Order – Invoice Voucher.*

6.5.16. Foreign Nation's Customs Forms (when applicable).

6.5.17. All applicable home station forms.

6.6. Route Navigation Kits.

6.6.1. The PIC or a designated representative will build a route navigation kit at the home station, which will remain with the aircraft until its return. Kits should contain sufficient quantities of materials to cover the complete round trip from the issuing station and return, plus appropriate materials to cover the theater of operation. Publications, excluding

navigation charts, instrument approach procedures, standard instrument departures, and standard terminal arrivals, may be in electronic form provided suitable equipment (e.g., Laptop, Portable Electronic Devices (PED), etc.) is on board and easily accessible. Reference AFI 11-202V3, AFSOC Sup 1, restrictions regarding PEDs.

6.6.2. The following items and applicable change updates will be included in en route navigation kits:

6.6.2.1. DoD FLIP IFR Supplement (one each).

6.6.2.2. DoD FLIP Visual Flight Rules (VFR) Supplement (one each).

6.6.2.3. DoD FLIP Flight Information Handbook (FIH) (one each).

6.6.2.4. DoD FLIP IFR En route Charts (one set for en route segments and area of operation).

6.6.2.5. DoD or Federal Aviation Administration (FAA) / National Aeronautical Charting Office (NACO) FLIP Instrument Approach Procedures (two sets for area of operation including en route stops and diverts). Reference AFI 11-202, Volume 3, AFSOC Sup 1, *General Flight Rules*, for information on guidance for using Host Nation or commercial instrument approach procedure products.

6.6.2.6. Maps and Charts (including VFR sectional aeronautical charts as required).

6.6.2.7. FAA (NACO) Airport Facility Directories (one for each applicable region as required).

6.6.2.8. Standard Instrument Departure and Standard Terminal Arrival Route procedures.

6.6.3. Applicable information in FLIP Planning guides (e.g., General Planning, AP/1, AP/2, AP/3, AP/4) may also be included in en route navigation kits.

6.7. Airfield Review.

6.7.1. If a restriction applies to C-12, BE-200/350, or similar type of aircraft in the Airfield Suitability and Restriction Report, U-28 crews will comply with the applicable restriction.

6.7.2. If a restriction applies to a C-12 or BE-200/350, or similar type of aircraft in the Airfield Qualification Program, U-28 crews will comply with the restriction.

6.8. Intelligence Briefing. Before departing on missions outside the United States, crews will receive an intelligence briefing that will emphasize terrorist, enemy, and friendly political and military development in the area in which they will be operating. In theater, aircrews should receive intelligence updates on initial arrival at a forward operating location, or en route stop, and thereafter when significant developments occur. Report information of possible intelligence value to the local intelligence office at the completion of each mission.

6.9. Authenticators and Classified Material. Obtain and safeguard current authenticators and other classified materials required for area being transited. Carry authenticators when flying into an Air Defense Identification Zone (ADIZ), participating in exercises, on overseas missions, deployments, and when specified in operation plans. The communications security material required depends on the theater of operation and user.

6.9.1. Turn in authenticators and other classified materials at destination (if applicable) and obtain receipts for classified material. Issue and turn-in of authenticators is normally a function of base operations. At locations where no storage facilities exist, the PIC will ensure classified material is properly protected.

6.9.2. Remove/Zeroize any potential or classified information in the Flight Management System and/or GPS, aircraft radios, or mission systems/software when not required for flight or continuous mission operations. The PIC is responsible for all classified materials.

6.9.3. In an emergency, destroy or damage classified material and equipment prior to crash landing if possible. Follow destruction procedures outlined in the U-28 Mission Operator Handbook.

6.10. Call Signs. Use Voice Call Sign Listing or as specified in mission directives for all missions except local area training missions. Use squadron or wing static call signs as directed for local area training missions.

6.11. International Procedures. The PIC will review the FCG and brief crew members on applicable items before flights outside the CONUS. Comply with Customs, Immigration, Agriculture, Immunization, and quarantine requirements. The unit dispatching the mission is responsible for border clearance and other special clearances when required. Entry into foreign countries by personnel and equipment is directed by military agreements, diplomatic agreements, directives of the operational control commander, International Civil Aviation Organization (ICAO) standards, and the FCG.

Section 6B—Pre-departure

6.12. Briefing Requirements. Briefings should be clear, concise, and designed to provide mission essential information. Use briefing guides in AFI 11-2U-28V3_CL1. The PIC will ensure their crews receive a briefing, prior to each mission, covering all specific areas to be accomplished.

6.12.1. If critical pre-mission duties conflict with the briefing, the PIC may excuse crew members. Prior to engine start, the PIC will give a mission brief to any excused crew members detailing all areas pertinent to their duties.

6.12.2. The PIC will brief the following factors:

6.12.2.1. Weather. Determine recent weather and its effect on the takeoff, mission, and landing areas. Wind will be evaluated by the aircrew for its effect.

6.12.2.2. TOLD. Compute and brief applicable TOLD and power requirements for mission, airfield, or LZ operations.

6.12.2.3. Approach and Departure. Brief the planned approach and departure routes as well as significant terrain features.

6.12.2.4. Airfield/LZ dimensions and surface conditions.

6.12.2.5. Abort criteria. Brief abort considerations to include the takeoff and landing commitment points and engine failure after rotation options and intentions.

6.12.2.6. Other Hazards. Known personnel and equipment locations will be briefed. If other aircraft, vehicles or personnel are operating in the area, attempt to determine their affect on the LZ, taxi routes, or aircraft parking area. Brief any other special considerations such as parking locations, onload/offload procedures, fueling locations, equipment and procedures, etc.

6.12.3. Passenger Briefings (if applicable).

6.12.3.1. Prior to each flight with passengers on board, the PIC will ensure that a briefing has been conducted. When more than one flight is accomplished by the same crew and passengers, subsequent briefings are not required, except to brief route information, mission changes, etc.

6.12.3.2. The passenger briefing will include demonstration of seat belt, emergency oxygen, fire extinguishing systems, and location/operation of normal and emergency exits. All overwater flights will include a briefing on personal and aircraft life support equipment.

6.13. FCIF. Review Volume I, Part A, of the FCIF before all missions.

6.13.1. Update FCIF Currency Record and Squadron read file, if new material has been added to the FCIF since the last review. Legibly enter the last FCIF item number, the current date, and initial the FCIF Currency Record or complete required electronic review procedures if FCIF is stored electronically (e.g., Patriot Excalibur). When unable to sign the FCIF Currency Record or complete electronic FCIF review procedures, initialing and numbering the latest FCIF by an individual's name on the flight authorization orders certifies the FCIF Currency review of all items is complete. During deployed operations or contingencies, mission planning crews will maintain a hard copy of home station and MAJCOM FCIFs for aircrew review.

6.13.2. PIC will ensure any crew members joining a mission en route receive an FCIF update. Instructor pilots who fly with senior officers are responsible for briefing FCIF items.

6.13.3. Crew members not assigned or attached to the squadron will certify FCIF review by entering the last FCIF number and their initials next to their name on the file copy of the flight authorization orders.

6.14. Flight Planning Systems. The primary flight/mission planning system is the Special Operations Forces Planning and Rehearsal System (SOFPARS). SOFPARS is a subset of the Air Force Mission Support System that includes the Portable Flight Planning Software and the Joint Mission Planning System. Upgraded or new versions of SOFPARS and PC-12/U-28 Virtual Mission Planning System will be released and authorized by the HQ AFSOC/A3 for use after applicable testing has been completed.

6.14.1. Electronic Data Transfer. If the flight planning computer transfers a flight plan to the aircraft electronically, it must be an AFSOC approved system. HQ AFSOC/A3 will periodically publish a listing of approved systems. Aircrews will not use unapproved versions of any system to load aircraft avionics without HQ AFSOC/A3 approval.

6.15. Coordinates. The following procedures will be used: ***NOTE:*** Aircrew will confirm a common datum with their mission users during the mission planning process. Failure to plan navigation to LZ or mission areas using a common datum may result in errors of up to several

miles. Computer based mission planning systems and aircraft navigational systems generally use WGS84 as reference datum. Attempt to use WGS84 whenever possible to minimize confusion.

6.15.1. When reporting or receiving positions using coordinates derived from maps, charts, or related cartographic products, a complete reference to the source of the coordinates will be provided. This reference will include the datum map or chart producer, series, sheet number, edition and date.

6.15.2. When reporting or receiving positions using coordinates derived from non-cartographic sources such as GPS receivers, Analytical Photogrammetric Positioning Systems, or related systems, a complete reference to the source of the coordinates will be provided. This reference will include the datum, method used to derive the coordinates, agency producing the coordinates, and accuracy of the coordinates.

6.16. Flight Logs. Prepare a flight log for each off-station mission and include the following as a minimum: turn points, headings, distances, estimated time en route (ETE), Minimum Safe Altitude (MSA), and fuel computations. A flight log is not required if the above information is included on a flight map.

6.16.1. A flight log is not required for local training flights or when mission requirements are unknown such as during an alert status.

6.17. Weather Planning. Comply with AFI 11-202, Volume 3, AFSOC Sup 1, *General Flight Rules*, weather minimums unless local or theater specific weather minimums are more restrictive.

6.17.1. Thunderstorms. Do not fly above (within 2,000 ft) thunderstorms or cumulonimbus clouds.

6.17.1.1. If unable to vertically clear thunderstorms or cumulonimbus clouds, by at least 2,000 ft:

6.17.1.2. Avoid thunderstorms by 20 NM at or above FL 230.

6.17.1.3. Avoid thunderstorms by 10 NM below FL 230.

6.17.1.4. Avoid thunderstorms by 5 NM for combat operations below FL 280, if mission requirements dictate.

6.17.2. Avoid gust fronts and winds preceding a rapidly moving thunderstorm. **CAUTION:** Aircraft damage may occur 20 NM or more from any thunderstorm. Aircrews must familiarize themselves with information on thunderstorm development and hazards.

6.17.3. Aircrews should avoid flying in areas of recently dissipated thunderstorms and advected clouds (horizontal movement of clouds caused by wind) downwind of thunderstorms.

6.17.4. In order to minimize exposure to thunderstorm hazards when approaching or departing an airport in an area where thunderstorms are occurring or are forecast:

6.17.4.1. Attempt to maintain visual meteorological conditions (VMC).

6.17.4.2. Maintain at least 5 NM separation from heavy rain showers

6.17.4.3. Avoid areas of high lightning potential. **NOTE:** Approaches or departures may be accomplished when thunderstorms are within 10 NM providing they are not

producing any hazardous conditions (such as hail, lightning, strong winds, gusts fronts, heavy rain, wind shear, or microburst) at the airport, and are not forecast or observed to be moving in the direction of the route of flight (to include the planned missed approach corridor, if applicable).

6.18. Lunar Illumination. ***WARNING:*** NVGs worn during flights with illumination less than 10%, ("black hole" conditions) can lead to induced motion illusions and spatial disorientation.

6.18.1. Any mission planned when the lunar illumination is forecast to be less than 10% during any portion of the mission will require an additional level of Operational Risk Management. If a tactical approach using NVGs is to be accomplished when the illumination is below 10%, the aircraft commander must receive permission from the Operations Officer or Commander.

6.19. Fuel Planning. Use criteria outlined in AFI 11-202, Volume 3, AFSOC Sup 1, *General Flight Rules*. Aircrews will conduct appropriate in-flight planning to ensure proper fuel management. Reference Attachment 2 for ETP discussion and calculations.

6.19.1. Plan to arrive in the terminal area of the destination or alternate (if required) with:

6.19.1.1. 300 pounds of fuel remaining.

6.19.1.2. When two alternates are required, flight plan to the most distant alternate.

6.19.2. Land with no less than 200 pounds of fuel on board.

6.19.2.1. Minimum Fuel is 200 pounds and Emergency Fuel is 150 pounds.

6.19.2.2. Pilots will declare "Minimum Fuel" or "Emergency Fuel" to ATC when, in their judgment, the aircraft may land at the intended destination with less than the minimum/emergency fuel reserve.

6.19.3. Plan to consume 100 pounds per instrument approach to be flown.

6.19.4. Plan an additional 15 minutes of fuel per hour at maximum cruise power fuel consumption rate for that portion of the flight where structural icing or thunderstorms requiring off-course maneuvering are forecast or reported.

6.19.5. Cruise at the altitude that gives the best ground distance traveled for each pound of fuel consumed. As a rule of thumb, climb if ground speed is reduced less than 5 knots for each 1,000 feet of altitude increase. Descend if ground speed will increase more than 5 knots for each 1,000 feet of altitude decrease.

6.19.6. Pilots will plan fuel consumption rates at long range cruise power settings. Plan to fly transition legs at Long Range Cruise power settings in an effort to conserve fuel. If maximum cruise power setting is to be used for mission accomplishment, pilots will plan fuel consumption rates at this power setting.

6.20. Objective Area Planning.

6.20.1. Map Selection. Maps with a scale of 1:500,000 or greater detail are required for objective area operations. Maps with a scale of 1:250,000 or greater are highly desired.

6.20.2. Pilots will ensure all maps used for flight have the most current hazards posted. Aircrew will also ensure appropriate civil airspace is annotated along their route of flight.

6.20.3. Emergency Safe Altitude (ESA). An ESA is an altitude that will provide positive terrain clearance should Instrument Meteorological Conditions (IMC) be encountered. Use 1,000 feet (2,000 feet in mountainous terrain) above the highest obstacle or terrain feature within 10 NM of the intended flight path/objective area. An ESA will be computed for all objective areas. ***NOTE:*** Mountainous areas are defined as having a 500 foot change in surface altitude over ½ NM. For operations outside of the CONUS, reference AFI 11-202V3, AFSOC Sup 1.

6.20.4. Minimum Safe Altitude (MSA). An MSA is an altitude that provides Visual Meteorological Conditions (VMC) terrain clearance and limited threat avoidance during degraded aircrew situational awareness or periods of task saturation. Use 500 feet above the highest obstacle or terrain feature within 5 NM of the intended flight path/objective area. An MSA will be computed for all objective areas. ***WARNING:*** Failure to maintain an accurate altimeter setting during flight may cause lower than planned terrain clearances or impact with terrain when using the computed ESA/MSA.

6.21. Flight Plans. If aircrews file with the FAA and their destination is a military installation, aircrews must notify the destination base operations prior to departure or once airborne, via the appropriate FAA Flight Service Station, of the planned time of arrival.

6.22. Aircraft Performance.

6.22.1. Weight and Balance. Weight and balance will be computed using the POH, equivalent electronic program, or vector template. A copy of each mission's weight and balance will be maintained at the squadron or operations center (as applicable) and carried with the aircrew. For en route stops, weight and balance need not be recomputed provided the zero fuel weight has not changed. The crew will compute in-flight crew and passenger equipment movement to ensure Center of Gravity limits are not exceeded. These computations will be briefed during the crew or mission brief or during flight, as required.

6.22.2. TOLD. Compute TOLD using the POH performance data charts or approved electronic equivalent. Compute TOLD for initial takeoff prior to engine start. Recompute data for pressure altitude changes of 500 feet, temperature changes of 5 degrees Celsius, or gross weight changes of 500 lbs.

Section 6C—Preflight

6.23. Aircraft Maintenance Forms.

6.23.1. Review the aircraft maintenance forms before applying power to the aircraft or operating aircraft systems.

6.23.2. Ensure that the USAF fuel card and/or other authorized method of payment are aboard the aircraft. The Air Card is used to pay for services such as aviation fuel, aircraft oil and fluids, minor maintenance items, landing fees, aircraft deicing, follow-me trucks, and other airfield related services at commercial FBO locations. The PIC is responsible for ensuring the receipt is correct and all appropriate signatures are obtained before departing the military base, airport, or FBO. The PIC is responsible for turning in all service receipts to maintenance upon return to home station. If services do not generate a receipt, the PIC will ensure the location and services performed are noted and relayed to maintenance.

6.23.3. The exceptional release must be signed before flight. A maintenance officer, maintenance superintendent, or authorized contract civilian will sign the exceptional release. If one of these individuals is not available, the PIC may sign the exceptional release.

6.23.4. Ensure that aircraft locking keys are in aircraft maintenance forms prior to takeoff.

6.23.5. Ensure the aircraft protective covers are on board aircraft prior to flight.

6.24. Aircraft Inspections.

6.24.1. Aircraft inspection will be accomplished by the PIC or person designated by the PIC.

6.24.2. Face-to-face turnovers between crew members are acceptable.

6.24.3. During higher headquarters directed exercises or contingency operations, any qualified aircrew may accomplish the preflight inspection and brief the oncoming aircrew.

6.24.4. Required Equipment. The final responsibility regarding equipment required for a mission rests with the PIC. If one PIC accepts an aircraft to operate a mission or mission segment without an item or system, this acceptance does not commit that PIC, or a different PIC, to subsequent operations with the same item or system inoperative. If the PIC elects to operate with degraded equipment or aircraft systems, coordinate mission requirements prior to flight with the mission control agency to ensure the decision does not adversely impact follow-on missions.

6.25. Alert Aircraft Procedures. To accept an aircraft on alert, complete a normal aircraft preflight. After 72 hours on alert, allow maintenance personnel access to inspect the aircraft.

6.25.1. Parking. Park the alert aircraft in a designated alert parking area to expedite taxi and takeoff.

6.25.2. Climatic Protective Facilities. During periods of extreme cold, hot, or severe weather, every effort should be made to shelter alert aircraft and essential equipment in a hangar to ensure operational readiness in the event of a mission.

6.25.3. Flying Alert Aircraft. The alert aircraft may be flown for purposes other than actual alert missions provided the following conditions are complied with:

6.25.3.1. Ensure sufficient fuel remains on board to meet mission requirements. If not, upon flight completion, refuel the aircraft to required alert fuel quantity.

6.25.3.2. Communication contact is maintained with the primary controlling agencies.

6.25.3.3. A qualified aircrew for the alert mission is on board.

6.25.3.4. Controlling agencies are notified any time the alert aircraft departs the local area.

6.25.4. Once accepted for alert, the alert aircrew will make an entry in the aircraft maintenance forms, stating, "Aircraft accepted on alert at _____, _____." (local time and date). No maintenance may be performed on it without prior approval of the alert crew PIC and notification of the squadron director of operations (DO) or deployed MC. To ensure integrity of the aircrew preflight, an alert crew member must be present whenever maintenance is performed, or at the completion of the maintenance, the aircrew is required to

check the area in which maintenance was performed. The check should be performed as soon as practical after the maintenance and must be performed prior to flight.

6.26. Aircraft Servicing and Ground Operations.

6.26.1. Pilots are allowed to add engine oil, if needed, at austere locations or at stations without maintenance support. At military bases, coordinate with local base operations representatives on procedures for servicing the aircraft while the aircrew is not present.

6.26.2. Aircrew/Maintenance Engine Runs. Mixed aircrew/maintenance engine runs should not normally be accomplished. If conducted, the appropriate POH or maintenance inspection procedures will be used.

6.27. Life Support and Oxygen Requirements.

6.27.1. Upon reporting to the aircraft, the PIC or designated representative will ensure sufficient quantities of appropriate serviceable life support, survival equipment, and protective clothing for the entire mission are aboard the aircraft. Verify Air Force Technical Order (AFTO) Form 46, *Prepositioned Life Support Equipment*, prior to departing home station. Life support equipment and medical kits weighing less than 200 lbs may be secured with seat belts.

6.27.2. Aircrew members will wear Life Preserver Units on all overwater flights when route of flight is beyond power off gliding distance from land. Life Preserver Units will be available for crew use anytime the route of flight is over water. Passengers will have life preservers available and will be worn at the discretion of the PIC. **EXCEPTION**: Life Preserver Units are not required when on approach or departure.

6.27.3. Life rafts will be available to accommodate all personnel on board. Life rafts are not required when overwater flight occurs during instrument approach procedures under ATC control, immediately after takeoff, and before landing.

6.27.4. Anti-exposure suits for the aircrew and passengers will be on board during any preplanned overwater flights which are beyond power off gliding distance from land and the water temperature is 60° Fahrenheit (F) (16° Celsius (C)) or less. The anti-exposure suits will be worn by pilots on flights which are beyond power off gliding distance from land and the water temperature is 60°F (16°C) or less. **EXCEPTION**: Anti-exposure suits are not required when on approach or departure.

6.27.5. Oxygen requirements are outlined in AFI 11-202, Volume 3, AFSOC Sup 1, *General Flight Rules*. Crew members occupying a primary crew station will accomplish an operations check of their oxygen masks prior to flight. The oxygen mask will remain connected and readily available for use before engine start until after engine shutdown. An oxygen mask will be available for all aircraft occupants.

6.28. In-flight Meals. The pilots will not consume in-flight meals within 1½ hours of each other during flight if the meals were procured from the same source and consist of the same menu.

6.29. Cockpit Congestion and Loose Objects.

6.29.1. The flight deck area will be kept as uncluttered and orderly as possible for all flight and ground operations. Specifically:

6.29.1.1. During engine start and ground operations, no items (checklist, charts, etc.) should be placed in a position that would prevent inspection of aircraft and engine instruments or switches.

6.29.1.2. During flight, no items (checklists, charts, etc.) will be placed in a position that covers or hides any flight or engine instruments from the view of the PF.

6.29.1.3. Publication kits, flight kits, and personal kits will not be placed where they may interfere with the flight controls or egress.

Section 6D—Departure

6.30. Departure Briefings and Procedures. Before initial takeoff, the PF will brief the aircrew on the procedures to be followed during takeoff and departure, performance data, and intentions in case of an emergency.

6.30.1. Any crew member noting a safety of flight malfunction before rotate speed will state, "REJECT" and give a brief description of the malfunction. The PIC will brief abort criteria prior to takeoff roll if not accomplished in the pre-brief.

6.31. On Time Takeoffs. Mission departures are considered "on time" if the aircraft is airborne no later than 0.2 hours after the scheduled takeoff time. Early departures are authorized provided local, down-range and aircrew impact are evaluated and no adverse effect will result.

6.32. Aircraft Control. A qualified evaluator, instructor, or mission pilot will be at a set of flight controls during all phases of flight. When conducting single pilot operations, the PF will occupy the left seat.

6.33. Transponder/Aircraft Identification. If installed, operate Mode 4 in accordance with theater and operational directives. Operational check of the Mode 4 will be made prior to takeoff (test equipment permitting). The preferred and primary method of testing Mode 4 is with the ground test set. Do not plan to penetrate the ADIZ without an operational Mode 4.

6.33.1. Ground and in-flight checks are mandatory maintenance debrief items. Crews will annotate any failure or unsuccessful interrogation of the Mode 4 in the aircraft forms. Units will develop procedures for accomplishing the Mode 4 ground check. The check should be coordinated between aircrew and maintenance during the aircraft preflight.

6.33.2. Interrogation Friend or Foe (IFF) modes 1, 2, 3A and S codes are not classified and may be left set in the transponder. IFF Mode 4 codes will be zeroized before leaving the aircraft for extended periods of time.

6.34. Enhanced Ground Proximity Warning Sensor (EGPWS). Operate the EGPWS in accordance with the U-28 POH.

6.34.1. During day VMC flight, EGPWS alerts will be followed unless the pilot can verify the warning is false by visual contact with the terrain/obstacle. The flying pilot will call terrain/obstacle in site, state intentions to the crew and visually clear the terrain/obstacle.

6.34.2. During night or IMC flights, pilots will take immediate action to clear the EGPWS warning unless they are established on an approach. While executing the approach, the flying pilot will verify terrain/obstacles by all available means and state intentions to the crew.

6.34.3. Terrain inhibit switch. The terrain inhibit switch will only be selected once landing is assured and the aircraft is in a safe position to land (day/night). The pilot flying will state, "EGPWS acknowledged, landing assured," the non-flying pilot will verify and then select INHIBIT ON, stating "EGPWS inhibited." ***WARNING:*** The EGPWS Terrain Inhibit will be OFF for each approach and verified by the pilot flying prior to commencing the subsequent approach. ***WARNING:*** Do not delay pull-up for diagnosis of an EGPWS warning.

6.35. Traffic Collision Avoidance System (TCAS) Operations. Failure to acknowledge a traffic advisory may increase the probability of a midair collision. If able, all crew members will monitor voice callouts.

6.35.1. Use the above/below/normal/unrestricted settings as appropriate for the phase of flight and mission.

Section 6E—En Route

6.36. En Route Briefings and Procedures. Conduct in-flight briefings, as necessary, to cover any unusual circumstances and when flight safety or other conditions require the nonstandard accomplishment of any maneuver.

6.37. Flight Progress. Use all available navigation aids to maintain course centerline and a positive fix on the aircraft's position. When conducting navigation using a GPS for primary navigation or autopilot flight coupling, the pilots will also use appropriate navigational aids (e.g., Very High Frequency (VHF) Omnidirectional Range (VOR)) to maintain a positive fix on the aircraft's position.

6.38. Crew Duties and Responsibilities.

6.38.1. Transfer of Aircraft Control. The transfer of aircraft or flight controls will be accomplished using a positive change of controls. Use the statement "Pilot/Copilot has controls" to transfer control. The other pilot will acknowledge the change of aircraft control by stating "Pilot/Copilot has controls".

6.38.2. Interphone Communications. Limit interphone conversations to those essential for crew coordination. All crew members will monitor the aircraft interphone. Do not discuss classified information on interphone during non-secure radio transmissions.

6.38.3. All crew members will maintain communications on aircraft interphone prior to engine start through completion of the engine shutdown checklist. Clearance is required from the PIC prior to an aircrew member removing headset. The aircrew member will advise the PIC when they have resumed monitoring the aircraft interphone.

6.38.4. The PIC or designated aircrew member operating the command or mission radios will inform the crew which radio is primary All crew members will monitor the primary command radio unless specifically directed otherwise by the PIC.

6.38.5. Record and read back all ATC clearances except when ATC instructions require immediate execution and read back would interfere with the timely performance of aircrew duties.

6.39. Radar Advisories. Participate to the maximum extent possible while operating in VFR or simulated IFR conditions.

6.40. Communication Instructions for Reporting Vital Intelligence Sightings and Other Reports. Refer to AFI 10-206, *Operational Reporting*. Report all vital intelligence sightings from aircraft as indicated in FLIP Planning or FIH.

6.40.1. In-flight harassment or hostile action against aircraft. Aircraft subjected to harassment or hostile action by foreign aircraft will immediately contact the nearest USAF air-to-ground voice facility and report the encounter. Include aircraft nationality, type, insignia, or any other identifying features; note position, heading, time, speed when harassed, and type of harassment. Request a relay of the report to the nearest C2 agency. Also, attempt to contact the nearest command post when in UHF and VHF range.

6.40.2. Other incidents will be reported as indicated in JCS Publication 6V5 and AFI 10-206, *Operational Reporting*.

6.41. In-flight Emergency (IFE) Procedures. Report deviations from directives that occur as a result of an emergency in accordance with AFI 11-202, Volume 3, AFSOC Sup 1, *General Flight Rules*, and this instruction.

6.41.1. The PNF should be the primary crew member responsible for executing emergency checklist procedures. Normally the PF will manipulate the power lever, condition lever, and manual override lever. The PF maintains aircraft control and reacts appropriately. The PF will confirm any switches prior to being actuated and will reference the checklist for guidance during the emergency. The PNF and other crew members should review the POH as appropriate and as time permits.

6.41.2. Notification of Controlling Agencies. As soon as practical after completing the aircraft emergency procedure checklist or critical action procedures, furnish the controlling agency a description and extent of the difficulty, assistance required, intentions, and any further pertinent information. During emergencies, monitor simultaneous Ultra High Frequency (UHF) and VHF transmissions, if able, when operating in a terminal area under radar control.

6.41.3. Turnaround Procedures. When a turnaround is necessary, use procedures in FLIP. Maintain VFR, reverse course, climb or descend to a VFR altitude or flight level and request ATC clearance. If unable to maintain VFR, obtain an ATC clearance before reversing course. A turnaround under IFR conditions, without ATC approval, will be made only after a thorough evaluation of the seriousness of the emergency, general traffic density, and known traffic operating in the immediate area. Normally, a climb or descent (with minimum change in altitude) to a VFR altitude or flight level will result in minimum exposure to other aircraft, if a turnaround is required.

6.41.4. Need for Medical Assistance. When a person on board the aircraft requires medical care, the PIC will inform the station of next intended landing in sufficient time so medical personnel may meet the aircraft. The request will include the individual's gender, approximate age, and the nature of the medical problem.

Section 6F—Arrival

6.42. Approach Lighting System (ALS) Inoperative. Increase the published visibility minimums of an instrument approach by stated criteria in NOTAMs, ATIS information, or as depicted on the approach procedure, when the runway ALS is inoperative. This applies only to the ALS itself, not other lights which are not a component of the ALS (e.g., Visual Approach Slope Indicator, Precision Approach Path Indicator). If no other guidance is provided, increase the published visibility by ½ mile.

6.43. Arrival. Before starting each approach, the PF will brief the procedures to be followed during approach, landing, and go-around/missed approach, as necessary. Performance data will be reviewed. This briefing will be accomplished prior to the completion of the Before Landing Checklist.

6.43.1. Airspeeds. Reference Landing Speed (Vref) will be calculated and briefed before landing. Pilots will not fly slower than centered AOA around final turn until established on final. Final will be flown no slower than centered AOA until preparing for landing. **NOTE**: During precision landing operations crews may slow to the AOA slow diamond early in preparation for landing but will not fly slower than one diamond until final touchdown maneuver.

6.43.2. Airspeeds for emergency operations. Centered AOA should be flown for Simulated Flame Outs (SFOs), Emergency Landing Patterns (ELP's), or actual engine emergency operation. This does not preclude the pilot from flying a faster airspeed if required for energy management or as required for safety.

6.44. Radar Altimeter Procedures.

6.44.1. During VFR operations, the recommended low altitude warning setting is 90 percent of intended or flown cruise altitude.

6.44.2. For instrument approaches, set the radar or baro altimeter low altitude warning to the appropriate Height Above Touchdown, Height Above Aerodrome, Minimum Descent Altitude, Decision Altitude, or Decision Height prior to the Final Approach Fix.

6.45. Holding Exception for Remote or Island Destinations. IAW AFI 11-202, Volume 3, AFSOC Sup 1, *General Flight Rules,* aircrew are authorized to hold for one hour in lieu of an alternate for remote or island destinations.

6.46. Instrument Approach Procedures.

6.46.1. Weather Below Minimums. If the reported ceiling is below the minimum for the approach, but the visibility value is at or above the authorized minimums before initiating an en route descent, ensure fuel remaining is sufficient to accomplish the en route descent and approach, missed approach, and flight to alternate with appropriate reserves.

6.46.2. Circling Minimums. The PC-12 Trainer and U-28 are Category B aircraft. The PF may fly circling approaches at higher speeds raising the circling minimums to the category for the speed to be flown. The PF is responsible for briefing speeds and flying the approach according to the correct minimums.

6.47. Maximum Rate descent.

6.47.1. The minimum equipment required for a max rate descent is: a fully functional IS&S panel for each pilot, a functional radar altimeter, and an operational altitude/vertical speed preselect.

6.47.2. Briefing Requirements:

6.47.2.1. The descent's start point in mean sea level (MSL) altitude and distance from the arrival airfield.

6.47.2.2. The descent path and relationship to the arrival runway, and whether a descending turn is required and in which direction.

6.47.2.3. The "pullout" altitude in both AGL and MSL, which will be no lower than 2,000 ft AGL.

6.47.2.4. The "level off" altitude in both AGL and MSL and the expected distance from the arrival airfield. The level off altitude will be 1,000 ft AGL or the arrival airfield's pattern altitude, whichever is greater.

6.47.2.5. The location and altitude of the high terrain threat along the projected aircraft ground track during the maneuver.

6.47.3. Procedures.

6.47.3.1. The barometric minimums pointer on the IS&S panel will be set to the pullout altitude. The altitude/vertical speed preselect will be set to the level off altitude.

6.47.3.2. The nonflying pilot will call "2,000 feet above" and "1,000 feet above," the level-off altitude.

6.47.3.3. The nonflying pilot will call out "radar altimeter alive." The flying pilot will begin to arrest the descent at a minimum of 1,000 ft above level off altitude.

6.47.3.4. Aircraft pitch will not exceed -25 degrees and bank angle is limited to 45 degrees (at night) and 60 degrees (during the day) throughout the maneuver.

6.47.3.5. The nonflying pilot will cross check IS&S instrumentation with the visual picture outside the aircraft.

6.47.3.6. The CSO will back up the altitude calls of the pilot not flying.

Section 6G—After Landing

6.48. Maintenance. Complete aircraft maintenance forms after each flight.

6.48.1. Immediately after arrival, the PIC and any aircrew member documenting a maintenance discrepancy will debrief maintenance personnel on the status of the aircraft and subsystems. The discrepancy will be documented in the aircraft maintenance forms. At locations where there is no maintenance personnel and maintenance support is required, the PIC will ensure a thorough debrief is provided to the MC or command post prior to entering crew rest.

6.49. Impoundment. If an aircraft is involved in a ground or in-flight incident, the PIC should impound the aircraft immediately and contact the Unit CC, DO, or appropriate controlling agency for further instructions.

6.50. Clearwater Rinse Facility (Birdbath). Aircrew will not use Clearwater Rinse facilities in order to prevent damage to the aircraft.

6.50.1. An entry will be placed in the aircraft maintenance forms, "Aircraft Subjected to Salt Spray" anytime the aircraft is flown over salt water below 1,000 feet AGL, except for takeoffs and landings. Document the lowest altitude and duration the aircraft was subjected to salt spray.

6.51. Customs, Immigration, and Agriculture Inspections.

6.51.1. Complete customs, agriculture, and public health clearance forms, as required, prior to opening any doors other than the crew door or enplaning and deplaning personnel.

6.51.2. Proceed directly from the aircraft to customs, immigration, or agricultural inspection for processing at those stations where federal or local inspections are required. The PIC or designated representative completes the necessary forms before reporting to inspectors.

6.51.3. After clearing with border clearance agencies, the PIC or designated representative will return to the aircraft for offloading and other post-flight procedures.

6.51.4. A US military aircraft is a sovereign instrument. When cleared to over-fly or land in foreign territory, it is US policy to assert that military aircraft are entitled to the privileges and immunities which customarily are accorded warships. These privileges and immunities include, in the absence of stipulations to the contrary, exemption from duties and taxation; immunity from search, seizure, and inspections (including customs and safety inspections); or other exercise of jurisdiction by the host nation over the aircraft, personnel, equipment, or cargo on board. The PIC will not authorize search, seizure, inspection, or similar exercises of jurisdiction enumerated above by foreign authorities except by direction of HQ USAF or the American Embassy in the country concerned.

6.51.5. PIC will not permit the inspection of their aircraft by officials of any foreign government. If requested to do so, the PIC and crew will deny access and seek aid from the senior AFSOC or USAF representative or US Embassy or consulate within the host nation. Inform customs or other officials of the above policy and request that they confirm their request through their own government and with US Department of State representatives. If necessary, the aircrew will seal the aircraft and enter into crew rest, and relay departure intentions, until resolution of the matter by appropriate authority. Use communications by the fastest means available to inform command and control facilities should this situation occur.

6.51.6. When confronted with a search request by foreign authorities, aircrews should consider the following procedures:

6.51.6.1. In most cases, search attempts may be stopped by a statement of the PIC to the foreign officials that the aircraft is a sovereign instrument not subject to search without consent of HQ USAF or the chief of mission in the country concerned. This should be clearly conveyed in a polite manner so as not to offend foreign authorities that may honestly, but mistakenly, believe they have authority to search USAF aircraft.

6.51.6.2. If foreign authorities insist on conducting a search, the PIC must negotiate to delay the search until contact is made with HQ USAF/A3OFN or the appropriate embassy (US or other friendly nation). The PIC should unequivocally state, the aircrew

has no authority to consent to the search and that they must relay the foreign request to these agencies for decision. The PIC should then notify these agencies of the foreign request by the most expeditious means available. Thereafter, the PIC should follow instructions provided by the appropriate embassy and HQ USAF.

6.51.6.3. If foreign officials refuse to desist in their search request, the PIC should indicate that they would prefer to fly the aircraft elsewhere (provided fuel and mechanical considerations permit a safe departure) and request permission for immediate departure.

6.51.6.4. If permission is refused and the foreign authorities insist on forcing their way on board an aircraft, the PIC should state that he protests the course of action being pursued and that he intends to notify both HQ USAF and the US Embassy of the foreign action. The PIC should then allow the foreign agents on board the aircraft, without physical resistance, and thereafter report the incident to HQ USAF and the US Embassy as soon as possible.

6.51.7. In all instances, specific instructions may be briefed because of sensitive cargo or equipment. These instructions and applicable provisions of classified supplements to the foreign clearance guide should be followed where applicable.

6.52. Crew Debriefing/Post Mission Actions.

6.52.1. Training Missions. The PIC will conduct the debriefing session and complete the appropriate documentation. The PIC will ensure all applicable information is passed to controlling agencies.

6.52.2. Combat Operations. Each aircrew participating in operations under actual combat conditions will participate in an intelligence and mission debriefing session.

6.52.3. The Squadron CC, DO, or MC will ensure that all aircrews are debriefed immediately following a combat or combat support mission during which any tactics or procedures were observed that may affect other operations.

6.52.4. PIC encountering hostile fire will submit an immediate airborne report to their controlling agency followed by a hostile fire incident report to intelligence immediately after landing.

6.52.5. Other Missions. The PIC has the responsibility of affording to each crew member the opportunity to discuss unusual aspects of the mission. Debriefings may be formal or informal, as the situation requires.

6.52.6. When transiting installations, the PIC will establish a point of contact with the base operations or FBO for overnight billeting. The PIC will be immediately notified in the case of incident or emergency affecting the safety or security of the aircraft.

Section 6H—Miscellaneous

6.53. Electronic Devices. The use of electronic devices is as specified in AFI 11-202, Volume 3, AFSOC Sup 1, *General Flight Rules*. For electronic devices not listed, the user will provide the aircrew a letter from the Aeronautical Systems Division, Deputy for Engineering (ASC/ENAE) certifying the device is approved for airborne use. If the aircrew detects any

interference from an electronic device used aboard the aircraft, discontinue the use of this device for the duration of the flight.

6.54. Jamming and Interference. All aircrews and other radio users must be familiar with the procedures for reporting incidents of Meaconing, Intrusion, Jamming, and Interference (MIJI) or Spectrum Interference (SI). Info HQ AFSOC/A3TW on all MIJI/SI reports.

6.55. Utilization of Civilian Law Enforcement or Medical Personnel. Generally, before transporting civilian law enforcement officials or civilian medical personnel, obtain proper authorization through OG/CC or COMAFSOF and a legal review by the servicing staff judge advocate (SJA) to ensure compliance with applicable law and DoD policy. Commanders will not transport civilian law enforcement personnel into areas of imminent danger or where confrontation with civilian criminal targets is likely, will not use military force against civilian criminal targets unless in self defense, and will not direct the action of civilian authorities in enforcing the law or making arrests.

6.55.1. Civilian Law Enforcement Support. It is the policy of the Department of Defense (DoD) to cooperate with civilian law enforcement officials to the maximum extent practicable. AFI 10-801, *Defense Support of Civil Authorities*, incorporates the appropriate directive and provides uniform policies and procedures service members must follow when supporting federal, state, and local civilian law enforcement agencies. It establishes specific limitations and restrictions on the use of Air Force personnel, equipment, facilities, and services by civilian law enforcement organizations. Report all requests for assistance and coordinate all requests from civilian law enforcement authorities through the appropriate C2 channels.

6.56. Hazardous Material Procedures. The term "hazardous material" includes any material, which, because of its quantity, properties, or packaging, may endanger human life or property. Procedures in this paragraph apply whenever aircraft carry DoD Hazard Class/Division 1.1, 1.2, or 1.3 explosives, Department of Transportation (DoT) Class A and B poisons, etiological or biological research materials, radioactive materials requiring yellow III labels, and inert devices. Also included are DoD Hazard Class/Division 1.4 explosives, oxidizers, compressed gases, flammable solids and liquids, and corrosive liquids listed in AFMAN 24-204(I), *Preparing Hazardous Materials for Military Air Shipment*.

6.56.1. Briefing. Reference AFMAN 24-204(I) *Preparing Hazardous Materials for Military Air Shipment*.

6.56.2. Cargo Documentation. Do not accept hazardous materials unless proper documentation, certification, and identification of cargo are provided. This includes transportation control number entered correctly on both the cargo manifest and the Shipper's Declaration for Dangerous Goods.

6.56.3. Flight Planning. The PIC (unless specifically briefed otherwise):

6.56.3.1. Enters "Hazardous Cargo" and the mission number in the appropriate section of the flight plan. Use remarks section of DD Form 175, *Military Flight Plan*, information section of DD Form 1801, *DoD International Flight Plan*, or ICAO Flight Plan Form.

6.56.3.2. Plans the flight to minimize over-flying heavily populated or otherwise critical areas.

6.56.3.3. Prepares a departure message. The remarks section of the departure message should include the following:

6.56.3.3.1. DoT class and DoD hazard class or division, if applicable, of hazardous material on board (Include net weight of DoT Class A or B poisons and net explosive weight of Class A or B explosives).

6.56.3.3.2. Request for special support (e.g., isolated parking, security, technical escort teams, etc.).

6.56.3.3.3. Inert devices (when applicable).

6.56.3.4. If ETE is less than 1 hour, or if other circumstances preclude timely receipt at destination, notify base operations at the first intended landing, by priority telephone.

6.56.4. Before Engine Start. Ensure placards are removed. Give the controlling agency parking location, approximate engine start time, and verify that the firefighting agency has the hazardous materials information. If not, request the following be relayed to the fire fighting agency:

6.56.4.1. DoT class of hazardous material on board and the DoD hazard class or division for explosive material on board.

6.56.4.2. Net Explosive Weight.

6.56.4.3. Request for isolated parking (if necessary).

6.56.4.4. Estimated time of departure.

6.56.5. En Route. Normal procedures apply. Avoid over-flying heavily populated or otherwise critical areas.

6.56.6. Before Landing. Accomplish the following unless specifically prohibited by the theater commander or FLIP planning:

6.56.6.1. Contact the base operations dispatcher, control tower, approach control, or other agency specified in FLIP at least 30 minutes (or as soon as practical) before ETA to announce that hazardous materials are on board and to verify that the appropriate base support agencies have received the departure message. If not, transmit the mission number, ETA, and information.

6.56.6.2. If landing at a CONUS civil airport without a tower, give the previous information to the nearest FAA flight service station.

6.56.6.3. Request the information be relayed immediately to base operations or the civil airport manager, crash or fire protection agency, and other support agencies.

6.56.7. Parking:

6.56.7.1. DoD requires aircraft carrying DoD Hazard Class or Division 1.1, 1.2, 1.3 explosives, DoT Class A poisons, and certain biological agents and munitions be parked in areas isolated from personnel. PIC's are responsible for ensuring cargo is correctly identified to the tower and ground control. When aircraft are not directed to an isolated area, identify the cargo again to tower or ground control. When identification is acknowledged, the host is solely responsible for selecting the parking area. Should host

procedures be questionable, submit trip reports, as appropriate, to document such occurrences.

6.56.7.2. The military host is responsible for ensuring aircraft are properly placarded. For non-military installations, the briefing to the PIC will include placard requirements and, if required, placards will be furnished at the onload base. The shipper must make prior arrangements with the airport manager for shipments of hazardous materials requiring placards. The shipper is responsible for cargo identification, firefighting procedures, and isolated parking requirements.

6.56.8. Unscheduled Landing Due to IFE. Transmit unclassified information to the appropriate air traffic control facility as follows:

6.56.8.1. Nature of emergency and intent to land.

6.56.8.2. Aircraft position and ETA.

6.56.8.3. Number of personnel and location in aircraft.

6.56.8.4. Fuel on board.

6.56.8.5. That hazardous materials are on board, location of the cargo, and applicable information.

6.56.8.6. After Unscheduled Landing. Contact the AFSOC Command Center or COMAFSOF by telephone, radio, or message, giving arrival notice, hazardous materials information, and other pertinent information as required.

6.57. Hazardous Medical Equipment.

6.57.1. Nonstandard equipment possessed by medical facilities that use AFSOC air evacuation services should be regarded as potentially hazardous. Two types of equipment are of major concern:

6.57.1.1. Electronic medical equipment produces electromagnetic interference which is commonly beyond the limits specified by Military Standard (MIL STD) 462D, and therefore can interfere with aircraft communication and navigational equipment.

6.57.1.2. Therapeutic oxygen systems present an increased hazard of fire or explosion. A potential hazard is the inadvertent disruption of the cylinder neck, manifold, or regulator resulting in explosion and propulsion of the container or accessories.

6.57.2. For nonstandard electronic medical equipment, take the following precautions:

6.57.2.1. Pararescue or aeromedical evacuation personnel must inform the PIC when nonstandard electronic medical equipment is brought on board the aircraft.

6.57.2.2. The PIC must be informed of the anticipated period of use of the equipment during the mission.

6.57.2.3. The PIC must be alert for any interference with aircraft communications or navigation equipment during periods of use of this equipment.

6.57.2.4. When continuous use of the equipment is required throughout the duration of the mission, flight must be restricted to VFR conditions. Furthermore, exercise

additional caution on night VFR missions to ensure there are no adverse effects on navigational equipment.

6.57.3. For nonstandard oxygen equipment, take the following precautions:

6.57.3.1. All compressed oxygen equipment with exposed, unprotected cylinder neck, manifold, or regulator must be completely secured from all movement in its longitudinal and lateral axes.

6.57.3.2. Pararescue or aeromedical evacuation personnel must continually monitor the operation of the equipment to detect possible malfunction during exposure to altitude.

6.58. Narcotics. Aircrew members will ensure narcotics and other unauthorized items are not smuggled onboard the aircraft. Maintain narcotics that are part of official medical kits in accordance with appropriate directives.

6.59. Dropped Objects. During aircraft exterior visual inspections, pay particular attention to surfaces, panels, and components, which could potentially be dropped objects. If a dropped object is discovered and the mission is continued, the PIC will:

6.59.1. Ensure documentation is entered into the aircraft maintenance forms.

6.59.2. Notify the controlling agency as soon as practical. Include route of flight, altitude, and weather conditions encountered.

Chapter 7

AIRCRAFT SECURITY

7.1. General. This chapter provides guidance for aircraft security on the ground and in-flight. AFSOC PC-12 Trainer and U-28 aircraft are Protection Level "3" resources. This security priority designation applies to operational aircraft, wherever they are located, worldwide. Some aircraft contain equipment and documents that require protection per DoD 5200.01, *DoD Information Security Program; Protection of Classified Information*, AFI 31-101, *Integrated Defense*, and AFI 31-401, *Information Security Program Management*.

7.2. Procedures. The PIC is ultimately responsible for the security of their aircraft when located away from US military installations. Air Force Joint Instruction (AFJI) 31-102, *Physical Security*, covers security arrangements when US Air Force aircraft are located on other US military installations. Arrangements must be made to protect the aircraft during crew rest status at non-US protected locations. If US military security forces are not available, the US embassy assigned to that country must be consulted to ensure security arrangements are made. For missions involving a planning agency, the agency must coordinate with the PIC to ensure the planned security measures conform to mission requirements. The amount of security required will vary, depending on location and ground time.

7.2.1. For nonpermissive or uncertain environments, airfield and LZ security is the responsibility of the agency requesting support. Crew will work with the agency requesting the support to insure security meets the requirement for the mission.

7.2.2. For permissive environments, the PIC will receive a threat assessment and force protection capability evaluation briefing at home station prior to departure and receive updates enroute, if required. When landing at DoD component installations, the installation commander is responsible for providing adequate security for the aircraft. The PIC will determine if security is adequate. Planning agencies and the PIC will use Table 7.1. to help assess the risk to parked aircraft for planned overnight stops located at non-US military installations overseas and civilian airfields. ***NOTE:*** Aircrews possess the training to provide the appropriate security when present at the aircraft. For unscheduled or emergency landings at non-USAF installations, the PIC will assess the aircraft security situation and take the following actions, if force protection capability appears insufficient:

7.2.2.1. Aircrew surveillance. If the aircraft is not remaining overnight, aircrews are capable of maintaining appropriate aircraft security. The PIC will direct armed crew members to remain with the aircraft and maintain surveillance of aircraft entrances and activities in the aircraft vicinity.

7.2.2.2. Area Patrol. Request area patrol coverage from local security forces to include back-up response forces. If local authorities request payment for this service, use AF Form 15, *USAF Invoice*.

7.2.2.3. Departure without Crew Rest. If local security forces are unacceptable or unavailable, the PIC may waive FDP restrictions and depart as soon as possible for a destination with adequate force protection. If unable to depart the location due to system malfunction, the aircrew must secure the aircraft to the best of their ability. In no case, will the entire crew leave the aircraft unattended. Crew rest requirements will be

subordinate to aircraft security when the aircraft may be at risk. The PIC should rotate a security detail among the crew to provide for both aircraft protection and crew rest until relief is available. The PIC will coordinate through appropriate C2 channels to acquire additional security.

7.2.2.4. Tailored Security Measures**.** Standard physical security measures may be impractical at times due to mission, terrain, climate, sociopolitical sensitivities, or other factors. For example, some countries don't allow armed security personnel. On other deployments, the mission may rely on maintaining a low profile and attracting as little attention as possible. At such locations, tailor security measures to meet unique requirements when necessary. As a minimum, lock aircraft entry points and hatches. If it is not possible to lock aircraft, secure aircraft entry points and hatches in a manner to indicate unauthorized entry (i.e., taping hatch release handles or using seals). The PIC is the final authority for determining tailored security measures. Contact with US Embassy personnel is required at locations where security agreements are not in existence.

7.2.3. Ground security teams. Ground security teams may be considered to guard the aircraft for planned overnight stops. Teams may travel in Mission Essential Personnel (MEP) status and are responsible to the PIC at all times. The PIC will ensure security team members receive a mission briefing, aircraft egress, and passenger briefings, as appropriate. The squadron commander is the final approval authority for the need of ground security teams for their aircraft and authority may be delegated no lower than the PIC.

7.2.3.1. Ground security teams will comply with AFMAN 24-204(I), *Preparing Hazardous Materials for Military Air Shipments*, at all times when carrying weapons, ammunition, and equipment onboard the aircraft.

7.2.3.2. Due to the sensitivity of weapons in foreign countries, ground security teams will keep their weapons inside the aircraft and out of sight of foreign nationals, even if the FCG allows them to be carried outside the aircraft. If a destination requires weapons be carried outside the aircraft, the controlling MAJCOM must approve such action prior to deployment.

7.2.4. Unauthorized Entry. If, in the PIC's judgment, the aircraft needs to be locked and sealed as a measure to detect unauthorized entry:

7.2.4.1. Use the aircraft lock. ***NOTE:*** The aircraft will be locked during all off-station missions remaining overnight.

7.2.4.2. If the aircraft lock is unavailable, secure the hatches and doors in a manner that will indicate unauthorized entry. For example, tape inside hatch release handles to the airframe, so that entry pulls the tape loose. Close and seal doors using a metal boxcar seal or other controllable device to identify forced entry. Wipe the immediate area around the seal to help investigate forced entry. If the seals are damaged or have been tampered with, notify the appropriate local authorities, the controlling agency, and inspect the aircraft thoroughly.

7.2.4.3. Coordinate with the local base operations representative on procedures for servicing the aircraft while the crew is away. If a padlock is used, the key or combination may be left with base operations or the representative for servicing and maintenance personnel if required.

7.2.5. Security awareness is crucial to effective mission accomplishment. Aircrews must always remain vigilant to their surroundings, especially at high threat, low security locations. During preflight activities, aircrews will inspect accessible areas to include aircraft wheel-wells, air conditioning compartments, and cargo compartment for unauthorized packages, personnel, or other unfamiliar devices. Report any suspicious items to host security forces. Aircrews will maintain a heightened security posture throughout all pre-takeoff activities.

7.3. Aircraft Security Risk Assessment Matrix. Planning agencies and the PIC will use this matrix to help assess the risk to parked aircraft in a permissive environment. This matrix will be used for planned overnight stops at non-US military installations overseas and civilian airfields. A cumulative score of less than 55 implies that normal unmanned aircraft security measures are adequate. A score of 55 to 90 implies moderate security risk. The unit or mission commander may consider additional security measures. If the cumulative score is greater than 90, commanders should consider deploying or contracting security personnel. The unit or mission commander is the final approval authority for aircraft security issues. Authority may be delegated no lower than the PIC. ***EXCEPTION:*** During unscheduled or emergency landings the PIC is the final approval authority for aircraft security. The PIC should contact the US Embassy or US Defense Attaché Office for security assistance. ***NOTE:*** Normally, additional security for the aircraft is not required at military installations within a NATO country or US civilian airfields approved by the FAA/Transportation Security Administration.

Table 7.1. Aircraft Security Risk Assessment Matrix.

Factors	**0 Points**	**5 Points**	**10 Points**	**15 Points**
Local terrorist threat is currently: (1)	Negligible	Low	Medium (3)	High (3)
Installation/airport security services are:	Provided by host military forces only	Provided by host military and contract security forces	Contract security forces only	Not available (3)
Host security forces control entry:	The flight line and installation/airport	To the flight line only	To the installation/ airport only	To neither flight line nor the installation/ airport (3)
There is perimeter fencing or barriers around:	The flight line and installation/ airport	The flight line only	The installation/ airport only	Neither the flight line nor the installation/ airport (3)
Host security forces will provide _____ to guard the aircraft	An armed sentry	An unarmed sentry	Random security patrol coverage only	No sentry or random patrol coverage

Factors	0 Points	5 Points	10 Points	15 Points
				(3)
Host security forces will_____ security incidents involving the aircraft	Provide armed response to	Provide unarmed response to	Notify civilian authorities of	Notify the PIC of (3)
The aircraft will be parked:		Separate from host military and civilian aircraft	Among other host military aircraft only	Among civilian aircraft
The aircraft will _____illuminated during the hours of darkness. (2)		Be adequately	Be marginally	Not be (3)
Total Points:				

NOTES:

1. Derive the local threat from valid intelligence sources only.
2. "Adequate lighting" is equal to the illumination provided by one standard USAF light cart.
3. If a security response team and security patrols are not present, commanders should consider deploying or contracting security personnel.

7.4. Protective Standards for Aircraft Carrying DV. This paragraph applies specifically to aircraft transporting DV Code 4 or above. PICs are responsible for aircraft security at en route stops.

7.4.1. DoD Installations. Notify the base security forces of estimated arrival and departure times. Request continuous security surveillance during the entire ground time. If the installation is unable to comply, arrange for the best protection available.

7.4.2. Non-DoD Installations. Contact the airport manager or installation commander to arrange for force protection. If available security is inadequate, purchase additional security using AF Form 15, *USAF Invoice*.

7.5. Arming of Crew members. IAW AFI 31-117, *Arming and Use of Force by Air Force Personnel* and AFMAN 31-229, *USAF Weapons Handling Manual*, an appropriate authority may direct the arming of aircrew members as deemed necessary by mission threat analysis.

7.5.1. Weapons Issue. Before departing home station, authorized crew members will obtain weapons, ammunition, lock, and key. Crew members must present a current AF Form 523, *USAF Authorization to Bear Firearms*, to be issued a weapon. Crew members will be reissued the same weapon until the mission terminates at home station. If an armed crew member must leave the crew en route, transfer the weapon to another authorized crew member, using AF Form 1297, *Temporary Issue Receipt*.

7.5.2. Loading and Transfer of Weapons. Load and unload weapons at approved clearing barrels/facilities if available. To transfer a loaded weapon to another crew member, place the weapon on a flat surface. Do not use a hand-to-hand transfer.

7.5.3. Wearing of Weapons. Wear weapons in a holster, concealed at all times to protect the identity of armed crew members. Do not wear weapons off the flight line, except to and from the command post, armories, and other facilities associated with aircrew activities such as base operations, fleet service, cargo or passenger terminals, flight line cafeterias, snack bars, etc.

7.5.4. Weapons Storage. Crew members will be armed before beginning preflight or on-load duties. When no passengers are on board and after a satisfactory stowaway check, weapons may be stored in the gun box in-flight. If no gun box is available retain weapon for the duration of the flight. Crew members will rearm before landing. Weapons need not be unloaded before being placed in the gun box.

7.5.5. Crew Rest. During crew rest, store weapons in the most secure facility available, normally the base armory. If a weapons storage facility is unavailable or the country prohibits or restricts the entry of weapons, secure firearms and ammunition in the gun box.

7.5.5.1. Aircraft without a Gun Box. If an aircraft must remain overnight at a location where a government-owned storage facility is unavailable, use the nearest acceptable facility. Acceptable storage facilities are US or Allied military services armories, US National Guard and Reserve armories, US civil law enforcement armories, and US Embassies. If none of these are available, or the PIC believes weapons security may be compromised, crew members may secure their weapons in their quarters. One crew member will remain with the weapons at all times. In this case, turn the ammunition over to the PIC.

7.6. General Antihijacking Guidance. Aircrews must make every reasonable effort to resist an aircraft hijacking attempt, resistance may vary from dissuasion, to direct physical confrontation, including the use of deadly force. Due to the sensitive nature of anti-hijacking procedures, crew members should reference AFI 13-207, *Preventing and Resisting Aircraft Piracy (*For Official Use Only*)* and the FIH for specific guidance. Aircrews will not release any information concerning those procedures or hijacking attempts. Antihijacking is a crew duty performed exclusively by aircrew personnel. The hijacking of an AFSOC aircraft could create a serious international incident and jeopardize the safety of passengers and property. An aircraft is most vulnerable when the crew is on board and the aircraft is ready for flight. Hijackers may be mentally disturbed, emotionally unstable individuals for whom the threat of death is not a deterrent. Delay tactics have been most successful in saving lives and property. Detection of potential hijackers before they board the aircraft is the best solution to the problem.

7.6.1. Acceptance of Passengers. The host station passenger processing and manifesting facility should conduct antihijacking inspections. Do not board passengers unless the aircraft commander is fully satisfied with these inspections. ***EXCEPTION:*** Supporting/supported forces may be antihijack inspected at the aircraft by the aircrew.

7.6.1.1. Aeromedical Procedures. Military medical facility commanders are responsible for the anti-hijacking inspection of patients. When patients are delivered to the aircraft by civilian sources, the aircrew will perform required inspections before departure.

7.6.2. Contingency and exercise movements. During contingencies in support of combat operations and exercises involving the movement of large numbers of personnel, the supported unit should manifest passengers and perform antihijacking inspections.

7.6.3. Arms and Ammunition. Passengers (including MEGP) will not carry weapons and/or ammunition on their person or in hand-carried baggage on board an aircraft. ***EXCEPTION:*** special agents/guards of the Secret Service or State Department, and other individuals specifically authorized to carry weapons in coordination with the PIC. In all cases, the crew will be aware of the location of weapons and ammunition.

7.6.3.1. If individuals must clear their weapons before boarding the aircraft, and access to clearing barrel/facilities is limited, as a minimum, direct them to:

7.6.3.1.1. Move to a safe, clear area at least 50 feet from any aircraft, equipment, or personnel before unholstering/unslinging their weapons.

7.6.3.1.2. Clear their weapons in accordance with standard safety procedures.

7.6.3.2. Troops and deadhead crew members will not retain custody of ammunition on the aircraft but will turn it in to the troop commander or PIC. ***EXCEPTION:*** During combat operations, troops may carry unloaded weapons and ammunition on board the aircraft. When the tactical situation dictates, personnel who will engage an enemy force immediately upon deplaning at the objective may carry loaded weapons on board the aircraft at the discretion of the troop commander/team leader with the PIC's concurrence. Weapons will not be breached until clear of the aircraft.

7.7. Specific Antihijacking Guidance. It is imperative that all crew members are familiar with the ground and inflight resistance actions, covert communications, and forced penetration of unfriendly airspace procedures in AFI 13-207, *Preventing and Resisting Aircraft Piracy (Hijacking),* and the FIH. In the event of a hijacking, crew members must act immediately and resourcefully, without instruction, in order to counter the attacker successfully.

Chapter 8

MISSION EMPLOYMENT

8.1. Terminal Operations.

8.1.1. Takeoff Procedures. Compute aircraft performance data prior to departure if personnel, equipment, or fuel have been on or off loaded.

8.1.2. If any degradation in on-board systems is discovered which could result in loss of situational awareness during approach, the PIC will inform the crew. The decision to proceed rests with the PIC.

8.1.3. Go-around Calls. If any crew member calls "Go-around" the PF will immediately apply power to establish a climb that clears all obstacles. Minimum altitude for over flight of aircraft, equipment, or personnel on the runway is 500 feet AGL.

8.2. Tactical Operations. Execute the proper tactical procedure based upon threat analysis and aircraft performance. For all tactical operations, follow theater specific ATC procedures to avoid potential conflicts.

8.2.1. Radio Communication. The PIC will plan and brief individual responsibilities for secure communication loading, voice radio configuration, and communication during the mission. Coordination between all aircrew members is essential for safe and effective mission accomplishment. All aircrew members that have the capability to monitor radios must be alert to back up the assigned crew members when duties allow. The PIC will assign radio monitoring and transmission duties after examining each phase of flight for mission requirements and individual workload.

8.2.2. Preparation for NVG Operations. Cockpit and cabin lights may be taped or covered with NVG compatible film if they will interfere with NVG operations and cannot be otherwise disabled without removing aircraft power (e.g., pulling circuit breakers). Landing gear indicators will not be covered with tape.

8.2.3. Tactical Departures and Arrivals will be flown in accordance with U-28 Tactics Manuals.

8.3. Aircraft Navigation Systems.

8.3.1. GPS approaches. The PC-12 Trainer and U-28 are approved to use GPS for en route operations, terminal procedures to include Area Navigation (RNAV) arrivals and departures, and RNAV instrument approaches to the RNAV published approach minimums. U-28 aircraft and some PC-12 aircraft are certified to conduct both Lateral Navigation (LNAV) and Lateral Navigation/Vertical Navigation approaches. Most PC-12 Trainer aircraft are certified to conduct only LNAV approaches. Consult aircraft specific navigation equipment operating manuals for specific operating guidance and certification.

8.3.2. Self-contained Approaches. Although the U-28 navigation system enables approaches and pseudo approaches to be constructed and flown, these type approaches may only be used as a situational awareness aid and may not be used as the sole means of navigating to a runway or LZ in IMC. ***WARNING:*** Self-constructed approaches and pseudo approaches do not guarantee obstacle or terrain clearance.

8.4. Austere Landing Zone Operations. Only fully mission qualified aircrews or those receiving instruction are authorized to operate in accordance with this section. Use normal takeoff and landing procedures whenever practical.

8.5. Austere Landing Zone Assessment.

8.5.1. Mission operations may necessitate changes. Carefully evaluate aircraft capabilities and the mission environment before the operation. Consider the following:

8.5.1.1. Security of the operating area.

8.5.1.2. Terrain and obstacle features along the approach or departure path.

8.5.1.3. Runway surface conditions (e.g., dirt, grass, dust, small holes, damaged Pierced Steel Plank, smooth, rough, etc.).

8.5.1.4. Surface temperature and density altitude.

8.5.1.5. Usable runway length and width.

8.5.1.6. Surface acceleration and deceleration factors (e.g., soft, dry, wet, ice, slope).

8.5.1.7. Actual and predicted gross weight of aircraft.

8.5.1.8. Surface winds (e.g., headwind, tailwind, crosswinds, gusty, turbulence).

8.5.1.9. Number of takeoffs and landings required.

8.5.1.10. Ground Plan (e.g., ERO, vehicles, marshalling, onload/offload locations, etc.).

8.6. Austere Landing Zone Arrival. Plan arrival altitudes to minimize conflict with terrain or other airborne traffic.

8.7. Austere Landing Zone Traffic Pattern. When the environment permits, fly normal traffic patterns. Terrain may require significant modifications to normal traffic patterns. Options are to enter the traffic pattern via an initial, downwind, base, straight-in, or perpendicular to the runway.

8.8. Austere Landing Zone Specific Aircrew Procedures. The following procedures are recommended in addition to the normal procedures in the POH:

8.8.1. Turn off the Environmental Control System (ECS) as required.

8.8.2. During the final stage of landing roll, reduce reverse thrust, if conditions permit, to prevent debris from causing a restriction to visibility or engine damage.

8.8.3. Do not land if the LZ is not properly identified or an abort signal is given.

8.8.4. Brief the ground party and subsequent aircrews on any unexpected hazards encountered during takeoff or landing.

8.8.5. If the aircraft is not on the ground by the pre-briefed go-around point, the crew will immediately execute a go-around. Forcing the aircraft onto the runway by lowering the nose, especially with airspeeds in excess of Vref, may result in touching down nose wheel first and/or the propeller contacting the landing surface.

8.9. Laser Usage. Lasers will always be employed in accordance with established tactics, theater rules of engagement, and theater special instructions. Prior to employing a laser, aircrew

members should make every attempt to notify the crew. At no time will any laser be fired over the horizon.

8.9.1. Safety. The nominal ocular hazard distances for all U-28 lasers are detailed in the Mission Operators Handbook. Any crew member observing adverse weather conditions (i.e., clouds, smoke, etc.) that may cause laser energy to be reflected back into the aircraft should notify the crew immediately if laser operations are planned.

8.9.2. Laser Arming. The aircraft commander will arm lasers individually. Prior to arming, the crew member will state which laser they have selected.

8.9.3. Employment Guidance for Specific Laser Types for Training Missions.

8.9.3.1. Laser Range Finder. The eyesafe laser range finder (ELRF) may be employed during any training mission.

8.9.3.2. Visible Laser. During training, the visible laser will not be employed outside the boundaries of a military installation or range. The visible laser will not be employed inside the airspace of an active military airfield unless prior approval has been granted. While using a visible laser on a military installation or range, as part of an approved training event, only a visible laser which is eyesafe to all persons on the ground can be directed at any person, vehicle, or building.

8.9.3.3. Laser Target Marker (LTM). During training, the laser target marker will not be employed outside the boundaries of a military installation or range. During training, the aircrew should limit the exposure of any person, vehicles, or buildings to the greatest extent practicable. Due to the potential distraction to NVG operations, the LTM will not be employed at night inside the airspace of an active airfield unless prior approval has been granted.

8.9.3.4. Laser Range Designator (LRD). The laser LRD will only be fired on laser-approved ranges. If ground parties are present they will be advised prior to laser arming to ensure they have taken safety precautions.

8.9.4. The Operations Group (OG) Commander (OG/CC) or COMAFSOF is the waiver authority for employing a visible laser during a training mission outside the boundaries of a military installation or range.

Chapter 9

TRAINING

9.1. General. See AFI 11-202, Volume 1, *Aircrew Training*, and AFI 11-2U-28, Volume 1, *U-28 Aircrew Training*, for additional information.

9.2. Training Aircraft Not Capable of Flight. If an aircraft is not capable of departure within 4 hours after scheduled departure time, cancel the training mission unless waived by the PIC. Departure consists of actual takeoffs for assigned or planned training missions and does not include maintenance ops checks.

9.3. Air Combat Maneuver Training. Pilots will make advisory calls to the aircrew prior to beginning the evasive maneuver. Crew members will clear the aircraft of obstacles throughout the maneuvering.

9.4. Flare Policy.

9.4.1. Dispense flares in accordance with controlling agency procedures and restrictions. When over water, dispense flares at least 3 NM from any surface vessel, platform, or landmass. Follow regulations for local agency notification prior to flare usage.

9.4.2. If flares have been dispensed during flight, a hung flare check must be accomplished upon next landing. The PIC will deplane a crew member or have ground personnel visually inspect dispensers to ensure that there are no hung flares. If a hung flare is detected, follow local airfield hung flare procedures. If hung flare procedures do not exist at stopping location, park the aircraft 300 feet away from other aircraft, flight line equipment, or personnel.

9.4.3. A hung flare is a flare that has partially fired or is extended from the magazine. Missing flare endcaps should not be considered hung flares.

9.5. Simulated Instrument Flight.

9.5.1. The use of a hood or other artificial vision-restricting device is not authorized for any phase of flight.

9.5.2. Initiate practice instrument missed approaches no lower than the minimum altitude for the approach being flown.

9.6. Confidence Maneuvers. All confidence maneuvers will be accomplished in VMC conditions under VFR with a discernable horizon. Ensure the airspace around the aircraft is clear of traffic by visually clearing the area prior to the maneuver. Do not exceed aircraft limitations.

9.6.1. Stall Series. Begin "approach to stall" series at least 5,000 feet AGL or 5,000 feet above the clouds if operating "VFR over the top." For "approach to stall" training, recover from the stall at the first definite indication (e.g., stick shaker). An IP at a set of flight controls is required to perform this maneuver. Power on "approach to stall" training will not be performed.

9.6.2. Steep Turns. Accomplish steep turns at least 1,500 feet AGL or 1,500 feet above the clouds if operating "VFR over the top." Accomplish both 45 and 60 degree bank steep turns. Do not exceed 60 degrees of bank.

9.6.3. Spins. Intentional spins in the PC-12 Trainer and U-28 are prohibited.

9.6.4. Slow Flight. Fly an airspeed one diamond below on the Electronic Attitude Direction Indicator Angle of Attack Display for the given flap setting. Do not exceed 15 degrees of bank. This maneuver is authorized in day VMC only at a minimum of 1,500 feet AGL or 1,500 feet above clouds if operating "VFR over the top."

9.6.5. Acrobatics. Acrobatics in the PC-12 Trainer and U-28 are prohibited.

9.7. Simulated Emergency Procedures.

9.7.1. Practice simulated emergencies which require placing switches in other than their normal position or the aircraft in an abnormal configuration as specified in the aircraft manual only during training, evaluation, or currency flights when an IP or evaluator pilot is in one of the pilot seats.

9.7.1.1. IP candidates who occupy a pilot seat and are under the supervision of a flight examiner pilot, not in the seat, may practice simulated emergency procedures during upgrade evaluations to IP.

9.7.1.2. Preface all simulated emergencies with the word "simulated" and terminate simulated emergencies when an actual emergency arises.

9.7.1.3. Use a realistic approach and do not compound emergencies. Limit simulated emergencies to noncritical phases of flight when possible. Notify the controlling agency if a nonstandard traffic pattern or pattern requiring special sequencing is anticipated.

9.7.2. Simulated Engine Failure. Simulated engine failures will only be accomplished under VMC conditions and with an IP at a set of functional aircraft controls. During simulated engine failure operations, aircraft will be wings level in a position to execute a safe landing no lower than 100 feet AGL.

9.7.2.1. Initiate simulated engine failure no lower than 200 feet AGL or approach minimums if during an instrument approach. The IP will initiate the emergency. The IP will set the PCL to a setting equivalent to a feathered propeller once the flying pilot correctly executes/applies the proper actions for the simulated emergency procedure.

9.7.2.2. A go-around will be directed by the IP if a safe landing is not ensured. At direction of a go-around, the simulated emergency will be terminated and the PF will use power as required to safely climb away from the ground and clear all obstacles. The IP will direct a go-around during a simulated engine out approach at 100 feet AGL if the aircraft is not stabilized in a safe position to land, the airspeed is slower than centered AOA, or that landing gear does not indicate "Down, Three Green."

9.7.2.3. Aircrew will initiate simulated engine failure after takeoff (turn-back) training no lower than 800 feet AGL. Aircrew will initiate simulated engine failure after takeoff (straight-ahead) training no lower than 500 feet AGL. For straight-ahead training, the IP will study the area ahead of the aircraft for hazards and obstacles prior to the mission. If the aircraft cannot safely return to the airfield, the IP will terminate the maneuver and direct a go-around no lower than 100 feet AGL.

9.7.3. Off-Airfield Simulated Forced Landings. Simulated forced landings outside the airfield environment due to simulated engine malfunction/failure and other emergencies will

only be accomplished in VMC under VFR. The IP will initiate the simulated emergency to practice a forced landing only in an area previously studied by the IP for hazards and obstacles. The IP will terminate the simulated forced landing and direct a go-around no lower than 100 feet AGL during the day and 200 feet AGL at night.

9.7.4. Aborted Takeoff. Authorized during day or night VMC, or with NVGs. Crosswind component must not exceed 75% of the maximum demonstrated crosswinds listed in the aircraft POH. The runway must be dry, a minimum width of 60 feet, and long enough to meet normal takeoff distance requirements. Initiate the abort by stating "REJECT" before rotation speed.

9.7.5. When conducting Manual Override Lever (MOR) operations, the IP will ensure the MOR is properly secured upon landing and before power is applied using the PCL.

9.8. Touch-and-Go/Stop-and-Go Operations.

9.8.1. Conduct touch-and-Go operations IAW the POH Checklists. Touch-and-Go operations require two qualified pilots or an IP if the other pilot is unqualified or noncurrent.

9.8.1.1. The Touch-and-Go Checklists may be used when performing multiple instrument approaches or VFR patterns practice at the same airport or transitioning to another airport within 25 NM. Pilots will complete the Climb, Cruise, Descent, and Before Landing Checklists after the initial takeoff or if transiting to another airfield greater than 25 NM from the airport where instrument-approach or VFR-pattern practice was accomplished. ***WARNING:*** Runway less than Takeoff Total Distance may not guarantee obstacle clearance.

9.8.1.2. When conducting Stop-and-Go operations and the Condition Lever is set to Ground Idle for ground operations, the PNF will verify the Condition Lever is set to Flight Idle prior to PCL advancement for takeoff power setting.

9.8.2. Wet Runways. Stop-and-go or Touch-and-go operations are prohibited when crosswinds exceed 75% of the maximum demonstrated crosswinds listed in the POH.

9.8.3. Icy Runways. Stop-and-Go or Touch-and-Go operations are prohibited on icy runways.

9.8.4. Ceiling and visibility Runway Visibility Range must be at least 300 feet and ¾ mile.

9.9. NVG Operations. NVG training illumination requirements are the same as outlined in **Chapter 5**. NVG instrument approach weather minimums are the minimums for the approach.

Chapter 10

LOCAL OPERATING PROCEDURES

10.1. General.

10.1.1. Units will publish local and unique unit operating procedures.

10.1.2. These procedures will not be less restrictive than items contained in this or extracted from other AFIs. Items may include, but are not limited to the following:

10.1.2.1. Local terrain and weather rules.

10.1.2.2. Local area flying procedures.

10.1.2.3. Taxi or parking plans, etc.

10.1.2.4. Evacuation or dispersal plans.

10.1.2.5. Training or operational landing sites.

10.1.2.6. Noise abatement procedures.

10.1.2.7. Standard briefing items and terminology.

10.1.2.8. Standard mission folder/kneeboard items.

10.1.2.9. Mission planning factors.

10.1.2.10. Copies of these Standard Operating Procedures will be distributed to all affected aircrew members. Forward these SOPs to AFSOC/A3V.

Chapter 11

COMBAT SYSTEMS OFFICER SPECIFIC OPERATIONAL GUIDELINES

11.1. General. In addition to the duties established in applicable AFM/POH and other directives for U-28 aircraft requiring a CSO, the CSO will comply with the procedures and duties in this chapter. These items need not be briefed and will be performed as normal procedures. The PIC may assign other duties as necessary.

11.2. Preflight Duties.

11.2.1. Review the planning products (i.e. TOLD, Comm Card, etc.) to ensure they match the mission tasking.

11.2.2. Carry and operate SKL and portable media drives.

11.2.3. Intel Coordination. Coordinate with Intel to determine threats, EEIs, and any other required mission specific details prior to the flight.

11.2.4. Training Missions. The instructors will normally develop the mission scenario. If no instructor is on-board, the CSO is responsible for scenario development.

11.2.4.1. The CSO should coordinate with opposing force/mission ready training (OPFOR/MRT) members to develop a scenario that meets the training requirements of all participants. Specific areas to be covered include, but are not limited to, communications plan, specific mission events to be included in the scenario, and deconfliction with other players.

11.3. In-flight Duties.

11.3.1. Communications. Monitor the primary ATC radio unless otherwise directed by the aircraft commander. Record ATC clearances and monitor the read back during departure, en-route, and approach. This procedure is not required when ATC instructions require immediate execution by the pilot, or when such action interferes with the timely performance of other time-sensitive duties.

11.3.2. Mission Systems. Operate applicable mission systems in accordance with the U-28 Mission Operators Handbook. Brief pilot on any mission system that is not fully functioning.

11.3.3. Taxi. When duties permit, visually clear during ground operations.

11.3.4. Departure and Approach Monitoring. Immediately after takeoff, cross-check available flight references to ensure the aircraft remains clear of obstructions. To monitor aircraft on approaches and departures, the CSO will use a digital or paper chart in operational navigation chart (ONC), tactical pilotage charts TPC, or joint operational graphic (JOG) scale.

11.3.5. En-Route Navigation. Back up the pilots in obstacle and terrain clearance. Monitor aircraft heading and altitude, immediately notify the PF if these parameters are different than those briefed by the aircraft commander.

11.4. Post Flight Duties.

11.4.1. Perform Hung flare check if applicable, refer to section 9.4 for instructions.

11.4.2. If maintenance is not available, after engines are shutdown and propeller has stopped, deplane and insert the tail stand and wheel chocks.

11.4.3. Participate in maintenance debrief and intelligence debrief (if applicable).

Chapter 12

OPERATIONAL REPORTS AND FORMS

12.1. General. This chapter contains a description of applicable reports and forms. For assistance in completing safety forms contact the wing/group, unit, or local flight safety officer.

12.2. AFSOC FORM 97, *Aircraft Incident Worksheet*. Refer to AFI 91-204, *Safety Investigations and Reports*, and the AFSOC Sup. The Safety Office (HQ AFSOC/SE) will be notified of the following high interest items: insertion injuries, IFR incidents, dropped objects, or any other incident which, in the judgment of the Flight Safety Officer, needs to be reported. Use the AFSOC FORM 97, *Aircraft Incident Worksheet*, when reporting these incidents to HQ AFSOC/SE. AFI 91-204, *Safety Investigations and Reports*, and the AFSOC Sup provide policy guidance that is common to investigating and reporting all US Air Force mishaps and instructions for using AFSOC FORM 97, *Aircraft Incident Worksheet*. Safety investigations and reports are conducted and written solely to prevent future mishaps. Safety investigations take priority over any corresponding legal investigations, except friendly fire mishaps.

12.3. AF IMT 457, *USAF Hazard Report.* Refer to AFI 91-202, *The US Air Force Mishap Prevention Program*. The USAF hazard reporting system provides a means for Air Force personnel to alert supervisors and commanders to hazardous conditions requiring prompt corrective action. A hazard is any condition, act, or circumstance that jeopardizes or may jeopardize the health and well being of personnel, or which may result in loss, damage, or destruction of any weapons system, equipment, facility, or material resource.

12.4. AF IMT 651, *Hazardous Air Traffic Report (HATR).* Refer to AFI 91-202, *The US Air Force Mishap Prevention Program*, Attachment 3.

12.4.1. The Air Force HATR program provides a means for personnel to report all near midair collisions and alleged hazardous air traffic conditions. Use information in HATR reports only for mishap prevention. AFI 91-202, *The US Air Force Mishap Prevention Program,* list reportable incidents.

12.4.2. Procedures:

12.4.2.1. Make an airborne report of the hazardous condition to the nearest ATC agency (e.g., center, FSS, control tower, or aeronautical radio station), and give the following information as appropriate:

12.4.2.1.1. Identification or call sign.

12.4.2.1.2. Time and place (radial/DME, position relative to the airfield, etc.).

12.4.2.1.3. Altitude or flight level.

12.4.2.1.4. Description of the other aircraft or vehicle.

12.4.2.1.5. Include a verbal statement as soon as possible after occurrence that a written HATR report will be filed upon landing. ***NOTE:*** ATC agencies (e.g., FAA, etc.) must know if an official report is being filed.

12.4.2.2. File the HATR as soon as possible (within 24 hours) using any available means of communication. Normally, it should be filed at the base operations office at the

landing airport. If this is impractical and if communications permit, notify the safety office of the Air Force base where the condition occurred, the safety office at the home station, or as prescribed by the overseas MAJCOM. In any case, provide the safety office with all available information needed to prepare AF IMT 651, *Hazardous Air Traffic Report (HATR)*. Turn in a completed copy of AF IMT 651 to the wing/group safety office. ***NOTE:*** HATR reports are not privileged information and may be released outside the USAF.

12.4.3. Individuals submitting a HATR are granted immunity from disciplinary action provided:

12.4.3.1. Their violation was not deliberate.

12.4.3.2. They committed no criminal offense.

12.4.3.3. No mishap occurred.

12.4.3.4. They properly reported the incident using the above procedures.

12.5. AF IMT 711B, *USAF Aircraft Mishap Report Worksheet*. Refer to AFI 91-204, *Safety Investigations and Reports*.

12.5.1. Responsibilities. Notify the appropriate authorities of any mishap involving aircraft or crew. When notified, AFSOC units will initiate investigative and reporting actions in accordance with AFI 91-204, *Safety Investigations and Reports*. ***NOTE:*** Do not attempt to classify a mishap.

12.5.2. Reportable Mishaps:

12.5.2.1. Report damage to the aircraft, injury to the crew or passengers, and any damage or injury to another organization's equipment or personnel resulting from the movement or actions of an aircraft or crew.

12.5.2.2. Report the following occurrences:

12.5.2.2.1. A physiological episode: a physiological reaction, near accident, or hazard in flight due to medical or physiological reasons. This includes:

12.5.2.2.1.1. Proven or suspected case of hypoxia.

12.5.2.2.1.2. Carbon monoxide poisoning or other toxic exposure.

12.5.2.2.1.3. Decompression sickness due to evolved gas (bends, chokes, neurocirculatory collapse), or severe reaction to trapped gas resulting in incapacitation.

12.5.2.2.1.4. Hyperventilation.

12.5.2.2.1.5. Spatial disorientation or distraction resulting in an unusual attitude.

12.5.2.2.1.6. Loss of consciousness for any cause.

12.5.2.2.1.7. Death by natural causes of any crew member in flight.

12.5.2.2.1.8. Unintentional loss of pressurization if cabin altitude is above 18,000 feet Mean Sea Level, regardless of effects on personnel.

12.5.2.2.1.9. Alcohol intoxication and hangover (aircrew only).

12.5.2.2.1.10. Illness (both acute and preexisting), including food poisoning, dehydration, myocardial infarction, seizure, and so forth.

12.5.2.2.1.11. Exposure to toxic, noxious, or irritating materials such as smoke, fumes, or liquids. ***NOTE:*** In the event of a physiological episode, all crew members and passengers involved will report to a flight surgeon as soon as practical. The flight surgeon will coordinate with the safety office to generate a Class E Physiological Event in the Air Force Safety Automated System.

12.5.2.2.2. In-flight flameout, engine failure, required engine shutdown, suspected engine power loss, or loss of thrust sufficient to preclude maintaining level flight above minimum en-route altitude.

12.5.2.2.3. Flight control malfunction resulting in an unexpected or hazardous change of flight attitude, altitude, or heading.

12.5.2.2.4. Malfunction of landing gear when difficulty is experienced using emergency system or procedures.

12.5.2.2.5. In-flight loss of all pitot-static instrument indications or all attitude or directional indications.

12.5.2.2.6. Spillage or leakage of radioactive, toxic, corrosive, or flammable material from aircraft stores or cargo.

12.5.2.2.7. All cases of departure from intended takeoff or landing surface onto adjacent surfaces.

12.5.2.2.8. Any incident which does not meet the established criteria for a reportable mishap but, in the judgment of the PIC, needs to be emphasized in the interest of flight safety.

12.6. Reports of Violations/Unusual Events or Circumstances. Violations identified in AFI 11-202, Volume 3, AFSOC Sup 1, *General Flight Rules*, and navigation errors (including overwater position errors exceeding 24 NM, border and ATC violations) will be reported.

12.6.1. Include the following: factual circumstances, investigation and analysis, findings and conclusions, recommendations, and actions taken.

12.6.1.1. Attachments should include: notification of incident, crew orders, statement of crew members (if applicable), and documenting evidence (logs, charts, etc.).

12.6.2. In addition to the information listed, the historical flight plan will be turned in to the C2 center or owning standardization and evaluation office.

12.6.3. Send the original investigation report within 45 days to the Inspector General (HQ AFSOC/IG and A3). AFRC units receiving alleged violations will send the original investigation through channels to arrive at HQ AFRC/A3 within 35 days. HQ AFRC/A3 will send the investigation report to HQ AFSOC/IG and A3 within 45 days.

12.6.4. The following Operational Report (OPREP)-3, *Event or Incident Report*, reporting procedures for all aircraft notified of navigational errors exceeding 24 NM will be reported under AFI 10-206, *Operational Reporting*:

12.6.4.1. On notification of a navigational position error, the PIC (or agency receiving notification) documents the circumstances surrounding the incident (report content below) and ensures submission of an OPREP-3 report through C2 channels.

12.6.4.2. Include the following:

12.6.4.2.1. Name and location of unit submitting report, mission identification number, reference to related OPREPs-3, type of event (e.g., state "navigation position error."), date, time (Zulu), and location (e.g., ATC sector).

12.6.4.2.2. Description of facts and circumstances. Include aircraft type and tail number, unit (wing/group or squadron assignment of crew), home base, route of flight, point of alleged deviation, and miles off course.

12.6.5. PICs must keep the appropriate agencies apprised of any unusual events or circumstances impacting their missions. Examples of reportable events include meaconing, jamming, intrusion, interception, fuel dumping, loss of multiple engines, hostile fire, injury to passengers or crew members, etc. This list is not exhaustive. Some events may require the C2 agency to forward OPREP reports to higher headquarters. The old adage, "when in doubt, report it," applies.

BURTON M. FIELD, Lt General, USAF
DCS, Operations, Plans & Requirements

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

Reference

DoD 4515.13-R, *Air Transport Eligibility*, November 1994

DoD 5200.01, Volume 3, *DoD Information Security Program; Protection of Classified Information,* 24 February 2012

DoD 7730.57, *Aviation Career Incentive Act of 1974 and Required Annual Report,* 12 August 2008

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AFI 31-101, *Integrated Defense,* 8 October 2009

AFI 31-117, *Arming and Use of Force by Air Force Personnel,* 29 June 2012

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AFJI 11-204, *Operational Procedures for Aircraft Carrying Hazardous Material,* 11 November 1994

AFJI 31-102, *Physical Security,* 31 May 1991

AFMAN 11-217, Volume 1, *Instrument Flight Procedures,* 22 October 2010

AFMAN 11-217, Volume 3, *Supplemental Flight Information,* 23 February 2009

AFMAN 24-204(I), *Preparing Hazardous Materials for Military Air Shipments,* 1 September 2009

AFMAN 31-229, *USAF Weapons Handling Manual,* 12 May 2004

AFMAN 33-363, *Management of Records,* 1 March 2008

AFPAM 32-2004, *Aircraft Fire Protection for Exercises and Contingency Response Operations,* 21 April 2010

MIL STD 462D, *Test Method Standard for Measurement of Electromagnetic Interference Characteristics,* 11 January 1993

Adopted Forms

DD Form 175, *Military Flight Plan*

DD Form 1385, *Cargo Manifest*

DD Form 1801, *DoD International Flight Plan*

CF 6059B Form, *Customs Declaration*

DD Form 2131, *Passenger Manifest*

AF Form 523, *USAF Authorization to Bear Firearms*

AF Form 1042, *Medical Recommendation for Flying or Special Duties,*

AF IMT 15, *USAF Invoice*

AF IMT 457, *USAF Hazard Report*

AF IMT 651, *Hazard Air Traffic Report*

AF IMT 711B, *USAF Aircraft Mishap Report*

AF IMT 847, *Recommendation for Change of Publication*

AFSOC FORM 97, *Aircraft Incident Worksheet*

SF 44, *Purchase Order –Invoice Voucher*

AF 4327A, *Crew Flight Authorization*

Acronyms and Abbreviation

AC—Aircraft Commander

ACC—Air Combat Command

ACM—Additional Crew Member

ADIZ—Air Defense Identification Zone

AETC—Air Education and Training Command

AF—Air Force

AFI—Air Force Instruction

AFJI—Air Force Joint Instruction

AFM—Aircraft Flight Manual

AFMAN—Air Force Manual

AFPAM—Air Force Pamphlet

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information Management System

AFSOC—Air Force Special Operations Command

AFSOF—Air Force Special Operations Forces

AFTO—Air Force Technical Order

AGL—Above Ground Level

AIMS—Airlift Implementation and Monitoring System

ALS—Approach Lighting System

AMC—Air Mobility Command

AMP—Airfield Marking Pattern

AOA—Angle of Attack

AP—Area Planning

ARFF—Aircraft Rescue and Fire Fighting

ARMS—Aviation Resource Management Systems

ASDA—Accelerate-Stop Distance Available

ATC—Air Traffic Control

ATIS—Automatic Terminal Information System

C—Celsius

C2—Command and Control

CC—Commander

CDRUSSOCOM—Commander, United States Special Operations Command

COMAFSOF—Commander Air Force Special Operations Forces

CONUS—Continental United States

CSO—Combat Systems Officer

CVR—Cockpit Voice Recorder

DA—Decision Altitude

DH—Decision Height

DME—Distance Measuring Equipment

DO—Director of Operations

DoD—Department of Defense

DoT—Department of Transportation

DSR—Deployed Status Report

DSN—Defense Switched Network

DV—Distinguished Visitor

ECS—Environmental Control System

EEI—Essential Elements of Information

EGPWS—Enhance Ground Proximity Warning System

ELRF—Eyesafe Laser Range Finder

EPOS—Emergency Portable Oxygen System

ERO—Engine Running Onload or Offload

ESA—Emergency Safe Altitude

ETA—Estimated Time of Arrival

ETE—Estimated Time En-route

ETP—Equal Time Point

F—Fahrenheit

FAA—Federal Aviation Administration

FARP—Forward Area Refueling Point

FBO—Fixed Base Operator

FCF—Functional Check Flight

FCG—Foreign Clearance Guide

FCIF—Flight Crew Information File

FDP—Flight Duty Period

FIH—Flight Information Handbook

FLIP—Flight Information Publication

FLTS—Flight Test Squadron

FOD—Foreign Object Damage

GDSS—Global Decision Support System

GPS—Global Positioning System

HAA—Height Above Aerodrome

HAT—Height Above Touchdown

HATR—Hazardous Air Traffic Report

HF—High Frequency

HQ—Headquarters

IAW—In Accordance With

ICAO—International Civil Aviation Organization

IFE—In-Flight Emergency

IFF—Interrogation Friend or Foe

IFR—Instrument Flight Rules

IMC—Instrument Meteorological Conditions

IMT—Information Management Tool

IP—Instructor Pilot

IR—Infrared

JOG—Joint Operational Graphic

KIAS—Knots of Indicated Airspeed

LDA—Landing Distance Available

LNAV—Lateral Navigation

LRD—Laser Range Designator

LTM—Laser Target Marker

LZ—Landing Zone

MAJCOM—Major Command

MC—Mission Commander

MDA—Minimum Descent Altitude

MEGP—Mission Essential Ground Personnel

MEP—Mission Essential Personnel

MESL—Minimum Essential Subsystem List

MIJI—Meaconing, Intrusion, Jamming, and Interference

MIL STD—Military Standard

MMEL—Master Minimum Equipment List

MOA—Memorandum of Agreement

MOR—Manual Over-ride

MRT—Mission Rehearsal Team

MSA—Minimum Safe Altitudes

NAVAID—Navigational Aid

NC—Noncurrent

NGA—National Geospatial-Intelligence Agency

NM—Nautical Mile

NVG—Night Vision Goggles

OG—Operations Group

ONC—Operational Navigation Chart

OPCON—Operational Control

OPFOR—Opposing Forces

OPR—Office of Primary Responsibility

OPREP—Operational Report

PCL—Power Control Lever

PED—Portable Electronic Device

PF—Pilot Flying

PIC—Pilot In Command

PNF—Pilot Not Flying

POH—Pilots Operating Handbook

RDS—Records Disposition Schedule

RNAV—Area Navigation

SAR—Search and Rescue

SI—Spectrum Interference

SITREP—Situation Reports

SKL—Simple Key Loader

SOFPARS—Special Operations Forces Planning and Rehearsal Systems

SOS—Special Operations Squadron

SOW—Special Operations Wing

STS—Special Tactics Squadron

TCAS—Traffic Collision Avoidance System

TERPS—Terminal Instrument Approach

TODA—Take-Off Distance Available

TOLD—Take-Off And Landing Data

TORA—Take-off Run Available

TPC—Tactical Pilotage Chart

TSO—Technical Standard Order

UHF—Ultrahigh Frequency

UNQ—Unqualified

USSOCOM—United States Special Operations Command

VFR—Visual Flight Rules

VHF—Very High Frequency

VMC—Visual Meteorological Conditions

VOR—VHF Omnidirectional Range

Vref—Reference Speed

V_X—Best Angle of Climb Speed

V_Y—Best Rate of Climb Speed

Terms

ABORT—To turn back from or cut short a mission before its successful completion for reasons other than enemy action. This may occur after an aircraft is airborne or on the ground before takeoff.

ACCELERATE–STOP DISTANCE—The runway required to accelerate the aircraft to rotate speed, experience engine failure or set the PCL to idle, set the Condition Lever to Ground Idle, and stop the aircraft using average braking.

ADDITIONAL CREW MEMBER (ACM)—An additional crew member is one assigned in addition to the normal aircrew complement required for a mission for purposes of supervising or monitoring in-flight procedures.

ALERT AIRCRAFT—An operationally ready aircraft specifically designated to be launched in accordance with timing factors established for the assigned missions with a ready crew available.

BORDER CLEARANCE—Those clearances and inspections required to comply with federal, state, Agricultural, Customs, Immigration, and Immunization requirements.

COMMANDER, AIR FORCE SPECIAL OPERATIONS FORCES (COMAFSOF)—The commander designated by Commander, United States Special Operations Command

(CDRUSSOCOM) for CONUS deployments or by Theater SOC/CCs for overseas deployments, who is responsible for management of Air Force Special Operations Forces (AFSOF) within a theater, a geographic area, or a designated operation. The COMAFSOF is responsible to CDRUSSOCOM for management of CONUS-deployed AFSOF or to the respective SOC/CC for management of theater assigned AFSOF and is responsible to COMAFSOC for monitoring and management of AFSOF operating within the specific area of responsibility.

COMMAND AND CONTROL—The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. Also called C2. (JP 1)

CREW COMPLEMENT—The number of crew personnel used for a specific mission.

DESIGNATED REPRESENTATIVE—Individuals authorized in writing by the appropriate command level as having decision-making authority.

EXERCISE—A military maneuver or simulated wartime operation involving planning, preparation, and execution. It is carried out for the purpose of training or evaluation. It may be combined, joint, or single-service, depending on participating organizations.

FARP—A ground site designated for quick refueling and/or rearming of the aircraft.

HAZARDOUS CARGO or MATERIALS—Explosive, toxic, caustic, nuclear, combustible or flammable, biologically infectious, or poisonous materials that may directly or indirectly endanger human life or property, particularly if misused, mishandled, or involved in accidents (AFJI 11-204, *Operational Procedures for Aircraft Carrying Hazardous Material,* AFMAN 24-204(I), *Preparing Hazardous Materials for Military Air Shipments*).

MANIFEST—Movement record of traffic airlifted on aircraft operated by, for, or under the control of the Air Force.

MISSION FOLLOWING—Monitoring the location and status of aircraft and crews through the use of departure, arrival, and advisory messages.

OPERATIONALLY READY AIRCRAFT—An aircraft which is capable of flight with all required equipment operable to carry out the primary assigned mission.

Attachment 2

EQUAL TIME POINT

A2.1. Equal Time Point. The equal time point is an airborne decision point. It is the point along the route of flight (usually over water) from which it takes the same amount of time to return to the point of departure (or to the last suitable airfield) as it would to continue to the destination (or the first suitable airfield). In no wind conditions, the ETP is simply the halfway point between the two airfields. However, when flying into a headwind, the ETP moves closer to the destination aerodrome. Conversely, when flying into a tailwind, the ETP moves closer to the departure aerodrome. These calculations will also be impacted by the decision to fly at lower altitudes due to loss of aircraft pressurization without supplemental oxygen. The distance and time to the ETP from the departure aerodrome (or last suitable airfield) may be calculated using the following formulas:

$$\text{Distance to ETP} = \frac{(\text{Total Distance}) \times (\text{Ground Speed Home})}{(\text{Ground Speed Out}) + (\text{Ground Speed Home})}$$

$$\text{Time to ETP} = \frac{\text{Distance to ETP}}{\text{Ground Speed Out}}$$

Figure A2.1. Example.

Problem:

Distance from A to B: 800 NM
Wind: 50 kts headwind
TAS: 250 kts
GS Out: 200 kts (250 kts - 50 kt headwind)
GS Home: 300 kts (250 kts + 50 kt tailwind)

Solution:

$$\text{Distance to ETP} = \frac{800 \times 300}{200 + 300} = \frac{240{,}000}{500} = 480 \text{ NM}$$

$$\text{Time to ETP} = \frac{480 \text{ NM}}{200 \text{ kts}} = 2.4 \text{ hrs}$$